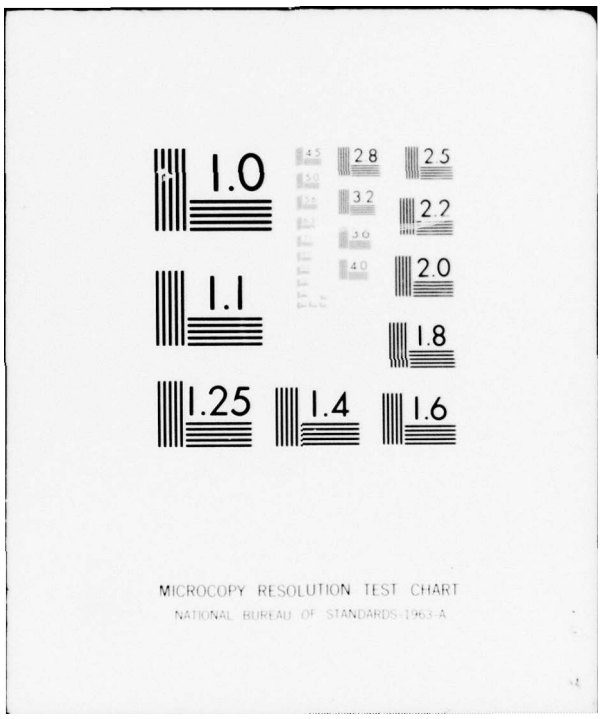
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16. Abstract

This report describes an airport capacity analysis recently completed for the large hub airports of the United States. A total of 104 airports, including thirty major air carrier airports, were evaluated. Information was collected on existing and planned airport capacities and facilities for the airport airside, terminal, and landside components. Data on ticket counters, curb frontages, baggage claim devices, security checkpoints, parking, gates, runways, and many other items were obtained. This report describes the study motivation, data sought, survey methodology, and data sources. Preliminary findings of the study and outlines for future applications for the data collected are also discussed. Actual data obtained from the airports are included within the report.

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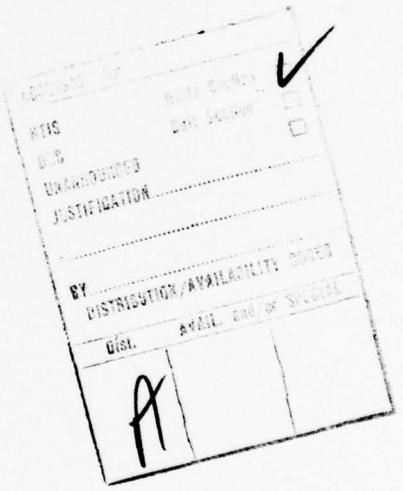
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SECTION 1

INTRODUCTION

The growth of aviation and the consequent environmental, land-use and ground access problems have focused a great deal of attention on airport capacity, particularly at the large metropolitan centers where most of the aviation activity occurs.* Master plans, forecasts, and estimates of capacity and delay have been made for many of the busiest airports in the United States. However, due to the growing environmental constraints, the uncertainty and variability of future air traffic demands, and soaring construction costs, it is necessary that existing airports be utilized effectively both now and in the future.

In numerous studies on future airport requirements the impacts of environmental, economic, political, technical, and social issues have not been fully reflected in the forecasting process. Moreover, the subsequent studies on airport capacity have focused primarily on the airside component of the airport. For example, a recent study (Reference 1) investigated the techniques and procedures by which the air traffic capacity could be improved at several major air carrier airports; the study did not examine whether the increase could be handled by the terminals and the ground access components of the system. However, the major constraint to growth at many of the large airports is not air space, but one of ground access capacity (References 1, 2). For example, in 1974 Los Angeles International (LAX) served over 23 million passengers, 70 percent of whom arrived and departed by some form of ground transportation. It is presently forecast that air passenger traffic at LAX will grow to over 40 million by the late 1980's. The major challenge remains how to get 70 percent of the

*Of the 746 airports in the United States served by commercial air carriers, 20 serve approximately 64 percent of all commercial passenger movements (Reference 2).

40 million annual passengers through the external community into the airport area and then to the aircraft.

During this study, the most current information and cost data were collected on both the existing as well as planned airport capacities and facilities. Not only is this information useful for assessing the adequacy of individual airport capacities, but the data can be used to determine the incremental costs for providing passenger services or capacity for airside, terminal, and landside components of the system. The latter two elements are referred to as groundside and are of particular interest since near term saturation is expected to take place with respect to the groundside capacity. Also, the cost of additional capacity if used in conjunction with delay analysis, can provide useful insight into airport cost benefit analyses.

SECTION 2

SURVEY METHODOLOGY

In this section the airport capacity data collection effort is described. First, the airports which were included in the survey are identified. Then the data which were sought from each of the airports are briefly discussed. Finally, the procedures and sources which were used to gather the airport data are outlined. Complete descriptions of the data and sources are presented in the various appendices as noted herein.

2.1 AIRPORT SELECTION

The airports selected for this study were those airports which play a significant role in the air carrier or general aviation needs of the nations' large air hubs. A large air hub is defined by the Civil Aeronautics Board (CAB) and the Federal Aviation Administration (FAA) as the city and Standard Metropolitan Statistical Areas (SMSA) wherein are enplaned one percent or more of the total enplaned revenue passengers in all services and all operations for all areas designated by the FAA. The percentage and number of enplaned passengers in the hub classifications used in this study (fiscal year 1974) are identified in Table 2-1.

Table 2-1. Hub Classifications for 1974 (Reference 3).

Hub Classification	Percent of Total Enplaned Passengers	Number of Enplaned Passengers
Large	1.00 or more	1,985,454 or more
Medium	0.25 to 0.99	496,363 to 1,985,453
Small	0.05 to 0.24	99,273 to 496,362
Nonhub	Less than 0.05	Less than 99,273

Twenty-six large air hubs are identified by the CAB and FAA. However, for this study New York City, New York and Newark, New Jersey, are considered as one hub since they are both operated by the same agency, the Port Authority of New York and New Jersey. Several non-large hub general aviation airports were included in this study. Also, air carrier airports not considered as part of a large hub by the CAB and FAA definitions but examined in conjunction with a large hub include San Jose in the San Francisco hub, Toledo in Detroit, Baltimore in Washington, West Palm Beach in Miami, and Ontario in the Los Angeles hub. These airports were included in the study because it was believed that activity there had a major direct effect on the large hub air activity. A summary list of the large hubs and the 104 selected airports is shown in Table 2-2.

Table 2-2. Airports Included in Study.

ATLANTA, GA
Charlie Brown-Fulton County (FTY)
DeKalb-Peachtree (PDK)
*Hartsfield Int'l. (ATL)

BOSTON, MA
Beverly Municipal (BVY)
Hanscom Field (BED)
*Logan Int'l. (BOS)
Norwood Memorial (OWD)

CHICAGO, IL
*Chicago Midway (MDW)
DuPage County (DPA)
Gary Municipal (GYY)
Meigs (CGX)
*O'Hare Int'l. (ORD)
Pal-Waukee (PWK)

CLEVELAND, OH
Burke Lakefront (BKL)
*Cleveland-Hopkins Int'l. (CLE)
Cuyahoga County (CGF)

DALLAS/FORT WORTH, TX
Addison (ADS)
*Dallas/Ft. Worth Regional (DFW)
Dallas Love Field (DAL)
Meacham Field (FTW)
Redbird (RBD)

DENVER, CO
Arapahoe County (APA)
Jeffco (BJC)
*Stapleton Int'l. (DEN)

DETROIT, MI
Detroit City (DET)
*Detroit Metro. Wayne County (DTW)
Grosse Isle Municipal (2G5)
Oakland-Pontiac (PTK)
*Toledo Express (TOL)
Willow Run (YIP)

HONOLULU, HI
*Honolulu Int'l. (HNL)

HOUSTON, TX
Hobby (HOU)
*Houston Intercontinental (IAH)

KANSAS CITY, MO
Fairfax Municipal (KCK)
*Kansas City Int'l. (MCI)
Kansas City Municipal (MKC)

LAS VEGAS, NV
*McCarran Int'l. (LAS)
North Las Vegas Air Terminal (VGT)

*Air carrier airport.

Table 2-2. Airports Included in Study (Continued).

LOS ANGELES, CA
Hawthorne Municipal (HHR)
*Hollywood-Burbank (BUR)
Long Beach Daugherty Field (LGB)
*Los Angeles Int'l. (LAX)
*Ontario Int'l. (ONT)
*Palmdale Air Force Plant 42 (PMD)
Santa Monica Municipal (SMO)
Torrance Municipal (TOA)
Van Nuys (VNY)

MIAMI/FORT LAUDERDALE, FL
*Ft. Lauderdale-Hollywood Int'l. (FLL)
*Miami Int'l. (MIA)
New Tamiami (TMB)
North Perry (HWO)
Opa Locka (OPF)
*Palm Beach Int'l. (PBI)

MINNEAPOLIS-ST. PAUL, MN
Anoka County (ANE)
Crystal (MIC)
Flying Cloud (FCM)
Lake Elmo (21D)
St. Paul Downtown (STP)
*Wold-Chamberlain Field (MSP)

NEW ORLEANS, LA
Lakefront (NEW)
*Moisant Field (MSY)

NEW YORK, NY
Islip MacArthur (ISP)
*Kennedy Int'l. (JFK)
*LaGuardia (LGA)
Morristown Municipal (MMU)
*Newark Int'l. (EWR)
Republic (FRG)
Teterboro (TEB)
Westchester County (HPN)

PHILADELPHIA, PA
Greater Wilmington (ILG)
*Philadelphia Int'l. (PHL)
Mercer County (TTN)
North Philadelphia (PNE)

PHOENIX, AZ
Deer Valley Municipal (DVT)
Litchfield Municipal (GYR)
Phoenix Sky Harbor Int'l. (PHX)

PITTSBURGH, PA
Allegheny County (AGC)
*Greater Pittsburgh Int'l. (PIT)
Latrobe (LBE)

ST. LOUIS, MO
Civil Memorial (ALN)
St. Louis Int'l. (STL)
Spirit of St. Louis (SUS)

SAN FRANCISCO, CA
Buchanan Field (CCR)
Hayward Air Terminal (HWD)
*Metropolitan Oakland Int'l. (OAK)
San Carlos (SQL)
*San Francisco Int'l. (SFO)
*San Jose Municipal (SJC)

SAN JUAN, PR
Isla Grande (SIG)
Mercedita (PSE)
*San Juan Int'l. (SJU)

SEATTLE, WA
Boeing Field/King County Int'l. (BFI)
Renton Municipal (RNT)
*Seattle-Tacoma Int'l. (SEA)
Snohomish County (PAE)

TAMPA/ST. PETERSBURG, FL
Lakeland Municipal (LAL)
St. Petersburg-Clearwater Int'l. (PIE)
*Tampa Int'l. (TPA)
Whitted (SPG)

WASHINGTON, DC
*Baltimore-Washington Int'l. (BAL)
Davis Field (W10)
*Dulles Int'l. (IAD)
Martin State (MTN)
*Washington National (DCA)

*Air carrier airport.

The airports were divided into two basic categories: air carrier and general aviation (GA). Air carrier airports are those airports whose primary function is to handle revenue passengers on scheduled air carriers. For this study, a general aviation airport is an airport where air carrier operations, if any, constitute less than three percent of the total operations. However, a GA airport may have scheduled commuter service.

Although the primary function of the general aviation airport is not to handle passengers, these airports have a direct effect on the large hub air activity. In addition to often occupying the same airspace, the presence of separate GA facilities allows for the possibility of diverting general aviation from an air carrier airport to accommodate more passenger flights at the air carrier airport. There is also the possibility that an existing GA airport may be developed into a future air carrier airport.

A few GA airports in this study have scheduled air carrier service. Morristown, White Plains, and Islip in the New York/Newark hub, Mercedita in the San Juan hub, and Trenton in the Philadelphia hub are GA airports with limited air carrier service. Palmdale in the Los Angeles hub is an exception to these rules in that it is treated in this study as an air carrier airport. Palmdale currently has little influence on the Los Angeles air activity; however, the Los Angeles Department of Airports has made substantial capital investments in the Palmdale airport area directed toward making Palmdale a major air carrier airport. Detailed plans have been prepared including an Environmental Impact Statement describing this project. For these reasons although future construction is uncertain, Palmdale was treated as an air carrier airport. Similarly, while Chicago's Midway handles very little air carrier activity at present, this airport represents a strong potential for relieving the congestion at O'Hare. This is evident since not only have the major air carriers continued their leases, but also there is a strong interest by city officials to expand the commercial

air activity at Midway. The air carrier airports in the survey are identified in Table 2-2 by an asterisk.

2.2 DATA COLLECTED

The purpose of this study was to collect the best available data on airport capacities and facilities for the selected airports. Data on both the existing and planned facilities were sought for all three segments of the airport system: airside, terminal, and landside. Each segment was then divided into components each of which affects the total capacity of the airport. Airport forecast data were also sought in order to keep airport expansion planning in the proper perspective.

For this study, the airside elements included runway (orientation and lengths), fleet mix, airside services, annual runway capacity and most important, the VFR and IFR runway hourly capacities.* Information was also acquired on planned changes to these items. A summary of data collected from the air carrier airports is presented in Table 2-3.

Terminal data for air carrier airports included numbers of gates (passenger exits, remote, and wide body), ticket counter lengths, types and capacities of baggage claim areas, security checkpoints, and passenger terminal areas. Also, data were collected on GA terminals and cargo terminals, if any existed. Whenever a separate international terminal facility existed, data on these facilities were recorded separately.

Landside elements consist of passenger ground access modes to the airport and information related to access and egress such as passenger modal splits, vehicles per passenger and passenger/visitor ratios. Data on access roadway capacity, automobile parking spaces, and terminal curb frontages were also collected. A summary of

*Although Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) are terms commonly used to describe the weather conditions at the time of the flight, they are actually rules and not weather conditions. Nevertheless, these interpretations are often used interchangeably.

Table 2-3. Summary of Data Collected (Existing and Planned).

38 Air Carrier Airports

General	*Terminal (Domestic and International)*
Terminal Type	Gates (total, wide body, remote)
Number of Employees	Ticket Counters (length, stations)
Distance to Hub Central Business District	Baggage Claim (area, types and number of devices)
Master Planning Status	Security Inspection (passenger, baggage - x-ray/manual)
Number of Air Carriers and Commuters	Terminal (area - domestic/international)
Airport Layout Plan	Capacity (peak hour, annual)
	Cargo/General Aviation Terminals (areas, apron sizes, aircraft spaces)
Forecasts	
Enplaned Passengers (air carrier/commuter, connecting/originating, domestic/international)	Landside
Operations (air carrier, general aviation - itinerant/local, military)	Curb Frontage (length - enplaned/deplaned)
Peak Hour (passengers, aircraft)	Auto Parking (number short/long term, rental car)
Enplaned Cargo	Access Roadway Capacity (vehicles per hour)
Airside	Passenger Modal Split (car, taxi, bus, other)
Runways (direction, usable length, planned extensions and new runways)	Vehicles Per Passenger
Capacities (VFR hourly, IFR hourly, practical annual)	Mass Transit Available
Fleet Mix	Cost Information
	Cost for Each Increase in Above Items (increased capacity, completion date, cost, year of cost estimate)

landside data sought for air carrier airports is presented in Table 2-3. As noted, information gathered reflects both present as well as planned facilities.

The cost of planned improvements is of particular interest in airport planning. These data items were sought for each planned increase in capacity for any of the airport facilities. The cost information was identified whether it included construction, administration, engineering, or contingency fees. The cost data were labeled by project, project completion date, and year of cost estimate. Although the goal was to obtain a cost figure for planned increases in each airport element, this proved to be impossible in many cases. For example, the costs of ticket counters and baggage claim areas could not be meaningfully separated from the total cost of a proposed terminal.

In order to keep the airport expansion information in the proper perspective, it was necessary to obtain forecasts of both passengers as well as aircraft operations. All capacity expansion plans are normally based on a forecast of demand for airport services. If the passenger activity level is expected to grow by a certain percentage, then it is necessary to insure that the capacity will exist to accommodate this growth. The goal of airport planning is to keep the capacity in balance with the demand. If the forecast of demand becomes a reality earlier than predicted, then the expansion requirements will also occur earlier. If, on the other hand, the demand increases at a slower rate than originally anticipated (due to the energy crisis or economic recession, for example), then the need for those expansion projects is "pushed back" until the demand levels are met. This latter case was quite common for the airports surveyed. Thus, airport forecasts of aviation activity were collected to enable a correlation to be made between passenger and aircraft forecasts and capacity expansion projects. The corresponding FAA forecasts were also recorded for comparison with airport forecasts.

At the general aviation airports where passenger statistics are not as meaningful, a separate data list was prepared. There the airport airside, terminal and landside data elements sought emphasized aircraft facilities such as hangars and aprons rather than terminal details. Similarly, forecast data collected were for aircraft operations and number of based aircraft and not for enplaned passengers. A summary of the major data items collected for the GA airports is shown in Table 2-4.

Detailed descriptions of each data item sought from the airports are presented in Appendix A. The definitions of terms used are included in the Glossary. Although not directly related to airport capacity, an attempt was made to classify the general aviation users with respect to type of aircraft and user category. A complete description of these items and the data collected is presented in Appendix B.

2.3 SURVEY TECHNIQUE

The data were collected from several sources. First, a letter was sent to the directors of aviation of the major air carrier airports. This letter described the project, listed the airports included in the survey, and requested copies of current airport planning documents. Replies were received from a majority of the people contacted and were often accompanied by airport master plans, environmental impact studies, airport layout plans and numerous other planning documents. At the same time, visits were made to the ten FAA regions in which at least one large air hub was included. Discussions were held at the regional offices as well as in many of the district offices. The focus of these discussions related to the planning status of each airport surveyed in the region as well as any airport, metropolitan, system or state planning efforts underway. At these meetings additional airport documents were made available and the appropriate airport planning agencies and personnel were identified by the FAA. A list of people contacted at each region is shown in Appendix C.

Table 2-4. Summary of Data Collected (Existing and Planned).

66 General Aviation Airports

General	**Terminal**
Number of Commuters	Parking Apron Area
Number of Employees	Hangar (numbers, areas)
Distance to the Hub Central Business District	T-Hangar Parking
Distance to the Nearest Major Air Carrier Airport	Terminal (area)
Master Planning Status	**Landside**
Forecasts	Automobile Parking Spaces
Operations (commuter/air taxi, general aviation - itinerant/local, military)	Access Road Capacity (vehicles per hour or speed and number of lanes)
Aircraft Movements (peak-day and peak-hour)	Availability of Ground Transportation (car rental, bus, subway, helicopter)
Based Aircraft (fixed wing - single engine/ jets/seaplane, rotary wing)	**Cost Information**
Airside	*Cost for Each Increase in Above Items* (increased capacity, completion date, cost, year of cost estimate)
Runways (direction, usable landing length, planned extensions, new runways, best landing aid, proposed landing aid)	
Services (FAA tower, flight service station, Vortac station, weather station, Unicom, Automatic Terminal Information Service, Joint Use Airport)	
Capacities (VFR hourly, IFR hourly, practical annual)	
Fleet Mix	

Draft data lists were completed using data available from the letter responses and FAA regional office visits. Then the study team members visited airport personnel in each of the large hubs. Interviews were conducted with each airport's planning department staff or airport manager to update, complete and verify the information collected and to identify any restrictions or limitations on the data. Once completed, the draft airport data lists were returned to interested airport contacts for review and correction.

A complete list of all airport personnel contacted by letter, telephone, or visit is shown in Appendix C. Over 40 master plans, 20 environmental impact studies, and 30 other airport planning studies were examined in the course of this study. A reference list of airport documents used in this study is also included in Appendix C. However, much of the data were available only from the airport operator or planning consultant, terminal plans, or capital improvement project descriptions. Over 125 airport and FAA personnel were contacted in an effort to obtain the best available data.

SECTION 3

GENERAL SUMMARY OF DATA

Although the assessment of the data collected was not within the scope of the study effort, a number of general observations are included in this section. Hopefully, these findings will provide an indication of the overall status of large hub airport planning as well as the problems encountered in the data acquisition process. In addition, an attempt is made in this section to summarize several of the important planning indices determined from the survey.

In the course of this study a variety of master plans and related airport documents were reviewed. The status of master plans at 30 of the nation's largest and busiest air carrier airports* is summarized in Table 3-1. Thirteen of these 30 airports (43 percent) have no master plan at all or plans which are at least four years old. Over fifty-five percent of all surveyed airports, including the general aviation airports, also fall into this category. Although a master plan is the most common approach to airport planning, there are many reasons airports may not have master plans. The development of a plan is a time-consuming, expensive effort even with the availability of funds from the federal Planning Grant Program (PGP). Also, community, environmental, and economic influences (such as the recent energy shortage) can dramatically alter the forecast demand with major effects on airport planning. Although a comprehensive planning document may not exist at an airport, some planners maintain a 5- or 10-year capital improvements project list which serves many of the purposes of a master plan. The trend, however, appears to be toward maintaining a current usable master plan. In fact, it can be seen from Table 3-1 that fourteen (47 percent) of the major air carrier airports have master plans that are underway or drafts completed within the past year.

*This includes the major air carrier airport in each of 22 large hubs plus three major airports in both New York and Washington and two in San Francisco.

Table 3-1. Master Plan Status at Surveyed Airports.

Master Plan Status*	Major Air Carrier Airports (30 Total)	All Surveyed Airports (104 Total)
Underway (data not available)	8	13
Completed or Draft Completed		
1975 or 1976	6	18
1974	1	7
1973	2	8
1970-1972	3	15
Prior to 1970	2	4
No Master Plan	8	39

*"Master Plan" includes Airport Layout Plan Reports only when they are identical in content to a traditional master plan.

Another observation was the lack of uniformity in terms and definitions used at different airports. For example, the term passengers meant enplaned passengers at one airport, but both enplaned and deplaned at another airport. Air carrier statistics sometimes included commuter and air taxi data. Surprisingly, some airports did not separate passenger traffic into connecting versus originating or domestic versus international. This classification scheme is useful in airport capacity work. For example, a high percentage of connecting passenger traffic decreases significantly the demand for landside facilities such as access roads and parking. Similarly, international passengers require special processing facilities (customs, immigration, etc.) which are reflected in lower values for terminal area per passenger.

As indicated in Tables 2-3 and 2-4, an attempt was made to gather as much data as possible from each airport. However, not every data item was available for every airport. As discussed, planning details were absent for some of the airports surveyed.

Table 3-2 describes existing facilities (1974-75) and planned expansions (1980) for an "average" of data collected from the thirty major air carrier airports. While the figures from this table are typical of the data collected they represent no one airport in particular.

Table 3-2. Average Large Hub Air Carrier Airport.

Item*	Existing 1974-1975	Planned 1980
Number of Carriers (29)	14	-
Number of Employees (23)	10,400	-
Miles to Hub CBD (28)	12	-
Airside		
VFR Hourly Capacity (25)	100	110
Annual Capacity, 000 Operations (25)	400	400
Annual Demand, 000 Operations (26)	270	350
Terminal		
Gates, Including Remote (29)	50	60
Ticket Counter Length, ft (26)	750	1100
Security Checkpoints (25)	8	9
Terminal Area, 000 sq ft (28)	760	1100
Peak Hour Passenger Capacity (19)	4500	5500
Peak Hour Passenger Demand (16)	3700	5500
Area/Enplaned Passenger (24)	0.23	0.16
Landside		
Auto Parking (29)	5900	8900
Access Road Capacity, vehicles per hour (18)	3200	3200
Curb Frontage, ft (28)	3500	3900
Passenger Access Modes (25)		
Auto	74.4%	-
Taxi	11.6%	-
Bus	11.5%	-
Other	2.5	-

*Numbers in parentheses indicate number of airports responding with either existing or planned data item.

Several trends indicated in this table are of particular interest to airport planning. First, peak hour passenger demand, which is generally recognized as a relevant airport terminal capacity planning index (Reference 4), is projected to increase 50 percent in the next five years. However, terminal area per enplaned passenger, another planning index, is projected to decrease by 30 percent. If, in fact, the ratio of terminal area to total passengers is a valid indication of terminal service levels, this survey indicates a possible deterioration in quality of service by 1980. Second, average annual aircraft operations are projected to increase by about 30 percent by 1980. Airport runway capacity, however, shows no significant improvement over the same period. This observation suggests that possible increased airside congestion problems may occur at the large air hubs. Finally, the modal split for airport access is presently weighted heavily in favor of the private automobile, with almost three-quarters of air travelers arriving by car. An increase of over 50 percent in auto parking spaces is planned through the five year period; however, no increase in access road capacity is planned for this same period. If present modal preferences continue, air travelers may experience more difficulty in getting to the airport as demand continues to grow.

A key item in the data collection study was the unit cost of airport improvements. A summary of the cost data for some major items is shown in Table 3-3. It is no surprise that airport construction costs have been escalating and the trend is expected to continue. Construction cost data vary widely depending upon region, type of construction planned, and facilities included in the construction. Generally speaking, airport planners seemed to agree that expansion costs were the most variable of all data provided.

A final observation can be made about the apparent imbalance in planning between the major airport activities. More often than not the airside development, including new runways, extensions, taxiways, and aprons, received an extremely detailed analysis, whereas the equally important terminal and landside development

Figure 3-3. Expansion Cost Information.

Item	Approximate Mean Unit Cost*
Runway (Air Carrier)	$1500/ft
Runway (General Aviation)	$350/ft
Terminal (Air Carrier)	$100/sq ft
Terminal (General Aviation)	$50/sq ft
Conventional Hangar	$20/sq ft
T-Hangar	$8000/aircraft
Auto Parking (at Grade)	$400/space
Auto Parking (Garage)	$4000/space

* Includes administration, engineering and contingency fees. All data are less than three years old. Figures are not adjusted by year of cost estimate.

was given a relatively cursory examination. About 40 percent of the operators of the major air carrier airports were not aware of their existing roadway capacity, which makes it difficult to maintain plans for keeping access capacity in balance with other airport improvements. Terminal plans were more common, especially in newer airports, but often lacked the detail or justification for expansion alternatives. Perhaps the present imbalance in airport planning emphasis will improve with the introduction of more planning guides (e.g., References 4 and 5).

While the extent of planning varied from airport to airport, a significant amount of planning details were absent for many of the general aviation airports. This is partly explained by the existence of greater uncertainties with respect to future level of activity at these airports and the lack of adequate historical data for future projections. Perhaps the major reason for the reduced emphasis on detailed planning at general aviation airports, however, is that there is often no perceived urgent need

for planning at a general aviation airport which handles a few thousand passengers as compared to an air carrier airport which handles a few million passengers each year. The only data typically recorded were the items reported to the FAA. Even with respect to these items, little information was available on the VFR and IFR runway capacities, for example. The general feeling seemed to be to expand landside and terminal facilities "when the need arises."

A few years ago most general aviation airports could operate almost autonomously. Today, with the increasing air traffic and passenger levels, the relationships and interdependencies of airports are being recognized particularly in the large air hubs. More aviation system plans are being developed for states and regions. Also, more general aviation airports are developing and maintaining current, usable master plans.

SECTION 4

AIRPORT DATA

The actual collected airport data is presented in this section. The airports are presented alphabetically by hub as indicated in the Table of Contents. Item by item descriptions of the elements of the air carrier and general aviation airport data lists are presented in Sections 2 and 3, respectively. Sources of information and airport contacts are noted in Appendix D of Volume I.

The quantity of data varies considerably among the airports. At airports where a planning study was completed much detailed information was usually available on existing and projected facilities and capacities. Where planning studies had not been recently completed or where studies were underway, little data was usually available.

AIR CARRIER AIRPORT DATA LIST

Airport Name Atlanta Hartsfield International Code ATL

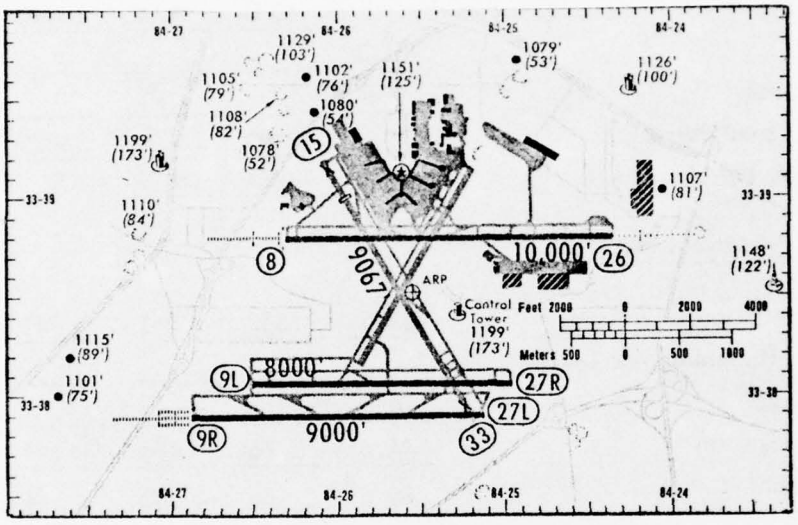
Hub Name Atlanta Master Plan Status 1973

Approximate Distance and Direction to Hub CBD 8-1/2 miles Northeast

Approximate Number of Employees at Airport 17,500 as of 1975

Number of Air Carriers 10 Commuters 2

Terminal Type: ___ Linear X Pier ___ Satellite X Transporter



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One of the busiest airports in the country, the Atlanta airport is just beginning a major extensive development program. When completed the airport will have four East West parallel runways, a new terminal complex between them and a reworked roadway access system. Unfortunately, most of the planning details for the new terminal and the improvement costs have not been determined and hence, cannot be included in this airport data list. Preliminary estimates are that the new terminal complex will cost approximately $200 million dollars and the roadway changes another $16 million; completion dates are uncertain but initial estimates of 1980 are likely to slip a little. Data included herein is taken from a 1973 Airport Layout Report, discussions with airport planning personnel, 1976, and 1968 Atlanta Airport Transportation Studies.

Some notes on the airport data collected: there are very few international operations. Those that occur use the new North Cargo Building since there is no separate international terminal, zeroes have been intended for those items. General aviation uses FBO facilities or the main terminal.

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PART 1. DEMAND FORECASTS

	Year:	Actual 1975	1978	1983	1988	1993
	Enplaned Passengers (000)					
1.	Air Carrier					
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting		13000	18600	25600	33800
4.	Originating		5000	7400	10000	14200
5.	Domestic	12513				
6.	International	55				
7.	Total Enplaned Passengers	12568	18000	26000	35600	48000
8.	Total FAA 1974 Forecasts		14234	18422		
	Aircraft Operations (000)					
9.	Air Carrier	412.2	557	641	741	842
10.	Commuter (Including Air Taxi)					
10a.	Air Taxi	9.3				
11.	General Aviation	44.6	76	105	144	187
11a.	Itinerant	44.6	76	105	144	187
11b.	Local	0	0	0	0	0
12.	Military Misc. (A.F.)	1.1	0	0	0	0
13.	Total Aircraft Operations	467.2	633	746	885	1029
14.	Total FAA 1974 Forecasts		603	703		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)		9100	13100	17600	22900
16.	Aircraft		122	142	160	179
	Cargo					
17.	Total Enplaned Cargo (000 Tons)		667	1047	1634	2426

ATL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	8	10000	Same	--	ILS-II
2.	26	10000	Same	--	ILS-I
3.	9R	9000	Same	--	ILS-III
4.	27L	9000	Same	--	ILS-I
5.	9L	8000	10000	1977	ILS-I
6.	27R	8000	10000	1977	ILS-I
7.	15	9067	To be closed		VFR
8.	33	9067			VFR
9.	8L	New	9000	Beyond 1980	
10.	26R	New	9000	Beyond 1980	
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

Year:	Actual 1975	1978	1983	1988	1993
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	104	104	156	156	156
17. Maximum Hourly Capacity (IFR)					
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)	525	525	592	592	592

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Year:	Actual 1975	1978	1983	1988	
Passenger Terminal(s)						
Gates						
1. Aircraft Parking Positions		109	144	172	172	
1a. International Terminal		0	0	0	0	
2. Wide Body Parking Positions		17	29	77	77	
2a. International Terminal		0	0	0	0	
3. Gates (Passenger Exits)		72				
3a. International Terminal		0	0	0	0	
Ticket Counters						
4. Linear Feet		500				
4a. International Terminal		0	0	0	0	
5. Stations		79				
5a. International Terminal		0	0	0	0	
Baggage Claim						
6. Public Area (sq ft)		13080				
6a. International Terminal		0	0	0	0	
7. Equipment Types		4 manual, 7 conveyors				
8. Equipment Capacity (bags/min)		420				
8a. International Terminal		0	0	0	0	
Security Inspection						
9. Parallel Passenger Servers		5	5	5	5	
9a. International Terminal		0	0	0	0	
10. Manual (Carry On Baggage)		0	0	0	0	
10a. International Terminal		0	0	0	0	
11. X-ray (Carry On Baggage)		5	5	5	5	
11a. International Terminal		0	0	0	0	

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1975	1978	1983	1988	
	Terminal Area (000 sq ft)					
12.	Total Area	783.5				
12a.	International Terminal	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	3134				
14.	Annual (000)	7835				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	447.2	447.2	447.2		
16.	Apron Area (000 sq ft)	480	480	480		
17.	Aircraft Parking Positions	12	12	12		
18.	Truck Loading Docks	170	170	170		
19.	Cargo Loading Type ____ Manual ____ Semi-Automatic ____ Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	No Separate GA Terminal				
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	31%				
24.	Percentage of Passengers Who Use Curb Only	69%				
25.	Average Length of Stay of Car in Parking Lot	1 hour				
26.	Number of Checked Bags per Passenger	1.32				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1975	1978	1983	1988	
	Automobile Parking Spaces					
1.	Total Public	6093	8500	8500	8500	
1a.	Short Term					
2.	Rental Car	600				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	2010				
4a.	Enplaned	835				
4b.	Deplaned	1675				
5.	International Terminal Lineal Feet	0	0	0	0	
5a.	Enplaned	0	0	0	0	
5b.	Deplaned	0	0	0	0	
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	
7.	Subway, Rail, Other	No	No	No	No	

Passenger Modal Split

8.	Automobile (Includes Rental Car)	73 %
9.	Taxi	14 %
10.	Bus (Includes Hotel Shuttles, Limos)	9 %
11.	Subway, Rail, Other	4 %

Percentage of People Entering Airport

12.	Passengers	%
13.	Visitors, Well Wishers, Greeters	%
14.	Employees	%

Vehicle Count

15. Number of Vehicles Per Passenger 1.24 originating; 1.25 terminating

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
Part 3	Terminal		1980	200000	1975
Total terminal development cost expected to be about $200 million.					
Part 4	Roadway		1980	16000	1975
Total roadway access changes expected to be about $16 million.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Charlie Brown - Fulton County Code FTY

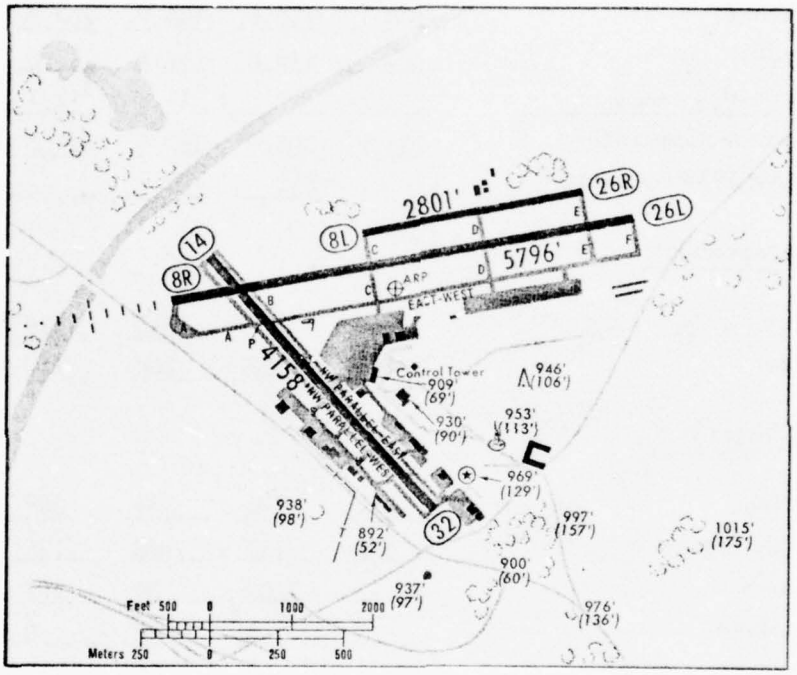
Hub Name Atlanta Master Plan Status 1974

Approximate Distance and Direction to Hub CBD 10 miles East

Approximate Distance and Direction to Hub Air Carrier Airport 12 miles Southeast

Name of That Airport Atlanta Hartsfield International Number of Commuters 0

Approximate Number of Employees at Airport 600 as of 1976



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Fulton County is 10 miles West of Atlanta with easy access from Interstate 20. Most of the activity here is corporate related. A new 1974 master plan has been completed (but not yet FAA approved) from which most of the data herein was taken. Many alternatives for relieving Hartsfield Atlanta have been investigated. The master planners for Fulton County have considered how these plans may affect the Charley Brown Airport one of which includes scheduled air service to FTY. At present, forecasts do not include any commuter service to Fulton County but this may change depending upon what happens at Hartsfield.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1978	1983	1988	1993
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	0
1a.	Air Taxi	0	0	0	0	0
2.	General Aviation	223.2	293.2	374.3	446.3	550.3
2a.	Itinerant	100.1	146.6	205.9	267.8	357.7
2b.	Local	123.1	146.6	168.4	178.5	192.6
3.	Military U.S. Army	12.7	12.7	12.7	12.7	12.7
4.	Total Aircraft Operations	235.9	305.9	387.0	459.0	563.0
5.	Total FAA 1974 Forecasts		281	390		
	Aircraft Movements					
6.	Peak-Day	969	1270	1618	1926	2368
7.	Peak-Hour	114	158	204	250	315
	Based Aircraft					
8.	Fixed Wing	283	396	534	659	825
8a.	Single Engine	176	165	145	125	100
8b.	Jets	13	88	150	257	360
8c.	Seaplane	0	0	0	0	0
9.	Rotary Wing	20	20	20	20	20
10.	Total Based Aircraft	303	416	554	679	845

FTY

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	8R	5796	6900	1993	ILS		
2.	26L	5796	6900	1993	VFR		
3.	8L	2801	0	1978	VFR		
4.	26R	2801	0	1978	VFR		
5.	14	4158	Same	-	VFR		
6.	32	4158	Same	-	VFR		
7.	8L	0	6000	1978, 1983			
8.	26R	0	6000	1978, 1983			
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-8 (or DC-9 landing only)

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA ____ Class A ____ Class B ____ Class C ____ Class D ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24 Hrs	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	8R
16.	Vortac Station	Yes	21.	Joint Use	Yes
17.	Weather Station	Yes			

		Actual		Forecast		
	Year:	1974	1978	1983	1988	1993
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	250	250	387	387	387

FTY

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1978	1983	1988	1993
1. Parking Apron Area (000 sq ft)	1218	1557.	1985	1985	2778
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	32	107	128		170
4. Conventional Hangars	14	47	65		76
5. Terminal Building Area (sq ft)	6500	13200	18500		32200

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1978	1983	1988	1993
1. Automobile Parking Spaces		140	201		345
2. Access Road Capacity (vehicles/hr)	(4 lane access road)				
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	No	No	No	No	No
5. Rail, Subway, Other Access	No	No	No	No	No

FTY

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7,8/3	Runway 8L/26R	5000 ft	1978	3295	1974
Land acquisition estimated to cost $120K.					
2/7,8/3	Runway	+1000 ft	1983	1195	1974
Extend 8L/26R and include parallel taxiways; strengthening runway is an additional $531K.					
2/1,2/3	Runway	1100 ft	1993	1456	1974
Extend 8R/26L and include parallel and connecting taxiways.					
3/3,4/2	Hangars		1978	1289	1974
7 conventional at $60K, 26 corporate at $25K, plus T-hangars and site preparation, paving.					
3/3,4/3	Hangars		1983	660	1974
6 conventional at $60K, 12 corporate at $25K, plus T-hangars and site preparation, paving.					
3/3,4/5	Hangars		1993	428	1974
3 conventional, 8 corporate plus T-hangars, paving.					

Note: Costs exclude contingencies, fees, and miscellaneous which are estimated at an additional 20%.

FTY

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Dekalb-Peachtree Code PDK

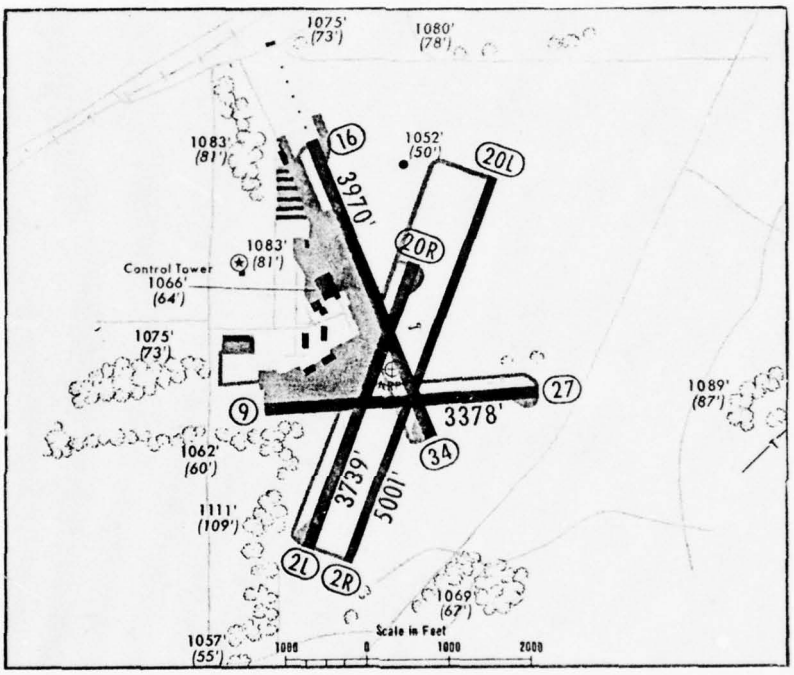
Hub Name Atlanta Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 9 miles Southwest

Approximate Distance and Direction to Hub Air Carrier Airport 19 miles South

Name of That Airport Atlanta Hartsfield International Number of Commuters 0

Approximate Number of Employees at Airport 450 as of 1976



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Dekalb-Peachtree is located about nine miles Northeast of downtown Atlanta. Most of the activity is corporate related with very little training activity. The airport is surrounded by residential and industrial areas and consequently does not have a great deal of expansion flexibility. Plans for development do include a new corporate hangar area at the North end of the airport between runways 16 and 20. This will include facilities for one or two more FBO's, 120 T-hangars and 8 to 10 new

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corporate hangars as well as a restaurant and additional parking aprons. Construction may start in 1976 with completion probably within the next 5 to 10 years depending on needs. Data included herein is from discussions with the airport manager (March 1976) and a 1975 Airport Layout Plan Report by Mayes, Sudderth, and Etheredge, Inc. of Atlanta.

PDK

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	0
1a.	Air Taxi *	0	0	0	0	0
2.	General Aviation	192.8	253.5	321.7	450.0	634.9
2a.	Itinerant	114.6	160.2	209.7	300.5	432.4
2b.	Local	78.2	93.3	112.0	149.5	202.5
3.	Military	0.7	0.7	0.7	0.7	0.7
4.	Total Aircraft Operations	193.5	254.2	321.8	450.7	635.6
5.	Total FAA 1974 Forecasts		274	309		
	Aircraft Movements					
6.	Peak-Day	780	1000	1150	1775	2400
7.	Peak-Hour	138	182	230	322	454
	Based Aircraft					
8.	Fixed Wing	391	534	660	916	1261
8a.	Single Engine	278	362	411	550	743
8b.	Jets	3	12	22	41	60
8c.	Seaplane	0	0	0	0	0
9.	Rotary Wing	10	12	17	25	39
10.	Total Based Aircraft	401	546	677	941	1300

* Note air taxi figures are included in itinerant GA figures.

PDK

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	2R	5001	5900	1994	VFR		
2.	20L	5001	5900	1994	LOC	ILS	1979
3.	2L	3739	5000	1994	VFR		
4.	20R	3739	5000	1994	VFR		
5.	9	3378	Same	-	VFR		
6.	27	3378	Same	-	VOR		
7.	16	3970	Same	-	VFR		
8.	34	3970	Same	-	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: BAC-111

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	20L
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

Airside Capacities (Operations)

		Actual	Forecast			
	Year:	1974	1980	1985	1990	1995
22.	Maximum Hourly Capacity (VFR)	125	125	125	125	148
23.	Maximum Hourly Capacity (IFR)	53	53	53	53	53
24.	Practical Annual Capacity (000)	310	310	310	310	365

PDK

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	1995
1. Parking Apron Area (000 sq ft)	1064.7	1826.1	2442.6	2442.6	2442.6
2. Hangar Area (000 sq ft)	80	100	100	130	130
3. T-Hangar Parking Positions	52	112	112	172	172
4. Conventional Hangars	6	10	10	15	15
5. Terminal Building Area (sq ft)	17600	17600	17600	17600	17600

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	1995
1. Automobile Parking Spaces	450				
2. Access Road Capacity (vehicles/hr)	(4 lane divided)				
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	Yes	Yes	Yes	Yes	Yes
5. Rail, Subway, Other Access	No	No	No	No	No

PDK

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/1/2	Apron	84575 sq. yd	1979	595	1975
Terminal apron pavement.					
3/1/3	Apron	68550 sq. yd	1984	578.5	1975
2/1,2/3	Runway	900 ft	1994	980	1975
Extend runway 2R/20L by 900 ft.					
2/3,4/3	Runway	1300 ft	1994	480	1975
Extend runway 2L/20R by 1300 ft					
4/2/-	Access road	3750 ft	1979	187.5	1975
Extend access roadway.					
4/2/-	Access road	1750 ft	1984	105.0	1975
Extend access roadway.					

Note: Costs exclude engineering and contingencies which are estimated at another 25%.

PDK

GENERAL AVIATION AIRPORT DATA LIST

Airport Name L.G. Hanscom Field Code BED

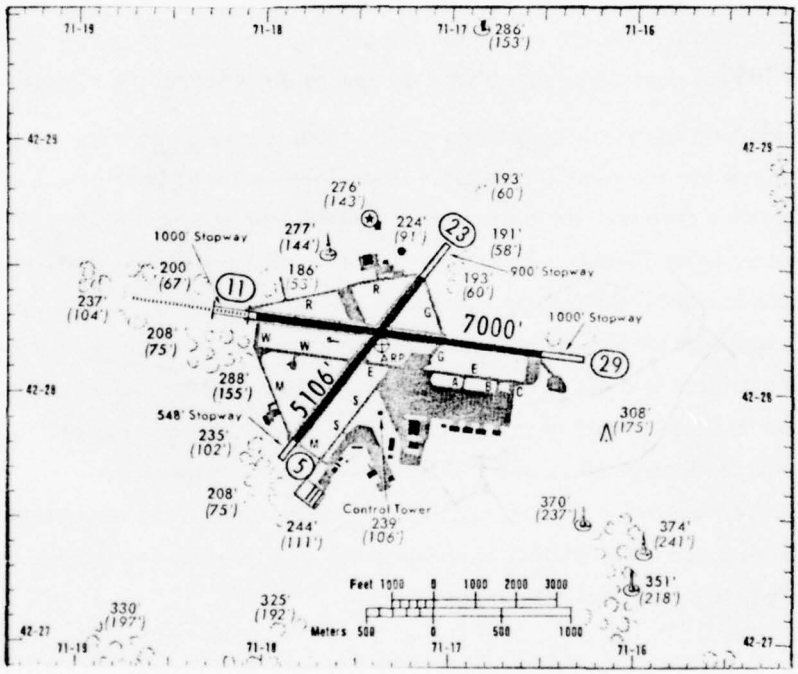
Hub Name Boston Master Plan Status Underway

Approximate Distance and Direction to Hub CBD 14 Miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 16 Miles Southwest

Name of That Airport Boston - Logan International Number of Commuters 2

Approximate Number of Employees at Airport 326 as of 1976



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Hanscom Field is located 16 miles northwest of Boston's Logan Airport. It was initially built as a general aviation facility for Bedford, Massachusetts around 1940. During the early years of World War II the Army Air Corps leased the land from the Commonwealth for advanced pilot training. In 1959 the airport was acquired by the Massachusetts Port Authority. Since then its operations consisted of joint-use by military and civilian aviation until the recent termination of the Air Force's lease.

The airport consists of two intersecting runways. Runway 11/29 is 7000 feet long and 200 feet wide with stabilized shoulders; its pavement is presently in good condition. Runway 5/23 is 5106 feet long and 150 feet wide with stabilized shoulders and its pavement is also in good condition. Because of its military history the field has a generous supply of buildings, hangars, and ramp space. Consequently, it has considerable potential to serve the area well as an excellent general aviation facility near the city of Boston.

A Master Plan is currently being written for Hanscom. A draft version of Part One has been completed giving details on the facility inventory and demand forecast models. This preliminary forecast data was used in this airport data list. It is based on an unconstrained growth model for demand, but this rate of growth shown for the period beyond 1980 is considered unrealistic by several knowledgeable airport officials.

In addition to the unconstrained growth models several constraints to growth are being considered in the planning effort. These include limits to the number of based aircraft, a nighttime curfew, elimination of jet traffic, minimizing training activity and banning rotary wing aircraft. Because the study is still underway and these and other options are being considered, it is difficult, if not impossible, to anticipate what facility expansion will occur at Hanscom. Nevertheless, two things are almost a certainty. First there is a minimum likelihood that there will be major facility expansion planned to keep abreast of the unconstrained growth demand model. Second, nothing will ever be done on the airside of the airport to increase runway capacity. What will occur at Hanscom in all probability is an evolutionary change in airport character reflecting economic trends, environmental sensitivities, technology changes in vehicle design, and political influences.

PART 1. DEMAND FORECASTS

	Year:	Actual 1975	Forecast 1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	2	2	3	3	3
1a.	Air Taxi	2				
2.	General Aviation	241	363	530	755	953
2a.	Itinerant	126	197	298	439	574
2b.	Local	115	166	232	316	379
3.	Military Air Force	3	3	3	3	3
4.	Total Aircraft Operations	246	368	536	761	959
5.	Total FAA 1974 Forecasts		358	509		
	Aircraft Movements					
6.	Peak-Day	1263	1048	1525	2168	2734
7.	Peak-Hour		91	132	188	237
	Based Aircraft					
8.	Fixed Wing	276	386	481	597	725
8a.	Single Engine	230	320	397	490	584
8b.	Jets	6	11	17	26	36
8c.	Seaplane	1				
9.	Rotary Wing	4	6	9	13	15
10.	Total Based Aircraft	280	392	490	610	740

BED

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	11	7000			ILS		
2.	29	7000			NBD	ILS	1977
3.	5	5106			VFR		
4.	23	5106			VOR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway C-5A

11a. Class of This Aircraft: (AA) A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 1 Class B
3 Class C 3 Class D 93 Class E

Miscellaneous Airside Data

13. FAA Tower Yes
14. Hours of Service 7 am - 11 pm
15. Flight Service Station No
16. Vortac Station No
17. Weather Station No
18. Unicom Yes
19. Automatic Terminal Information Service (ATIS) Yes
20. Primary Instrument Runway 11
21. Joint Use Yes

	Year:	Actual 1975		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	122				
23.	Maximum Hourly Capacity (IFR)	62				
24.	Practical Annual Capacity (000)	320				

BED

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	1995
1. Parking Apron Area (000 sq ft)	2880	2880	2880		
2. Hangar Area (000 sq ft)	145	145	163	180	
3. T-Hangar Parking Positions	36	48	60	72	
4. Conventional Hangars	7	7	8	9	
5. Terminal Building Area (sq ft)	45000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	1995
1. Automobile Parking Spaces	850				
2. Access Road Capacity (vehicles/hr)	4 lane highway (2 lane inbound @ 40 mph)				
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

BED

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/2/6	Landing Aid	Safety	1977		

An ILS will be installed on Runway 29 to provide increased levels of safety and lower minimums.

3/2,4/3	Conventional Hangar	17500 sq ft	1985	500	1975

Within the next 10-12 years, two 175' x 100' conventional hangars may be constructed.

3/2,4/4	Conventional Hangar	17500 sq ft	1990	500	1975

This is the second of the two hangars proposed for erection in the next 10-12 years.

3/3/2	T-Hangar	12 Spaces	1980

Within the next 10-12 years, three T-Hangars may be built on already prepared surface adjacent to existing T-Hangars.

3/3/3	T-Hangar	12 Spaces	1985

This is the second of the three T-Hangars anticipated in the next 10-12 years.

3/3/4	T-Hangar	12 Spaces	1990

This is the third of the three T-Hangars anticipated in the next 10-12 years.

AIR CARRIER AIRPORT DATA LIST

Airport Name General Edward Lawrence Logan International Code BOS

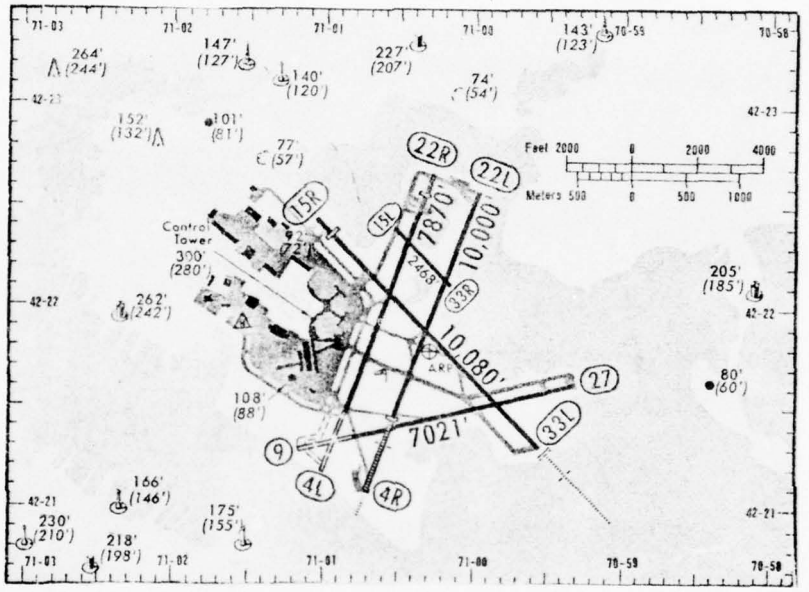
Hub Name Boston Master Plan Status 1976

Approximate Distance and Direction to Hub CBD 5 miles West

Approximate Number of Employees at Airport 10,000 as of 12/75

Number of Air Carriers 23 Commuters 10

Terminal Type: X Linear X Pier ___ Satellite ___ Transporter



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Logan Airport is one of the most controversial airports in the country. The problems are due mainly to pollution and the proximity of residential communities. Consequently, Master Planning for Logan is an extremely difficult undertaking. The last major planning effort that dealt with an in-depth statistical analysis of airport performance parameters and was accepted by airport authorities was the 1972 Master Plan. Since then the plans have suffered three major shortcomings: acceptance by airport authorities, a factual statistical base, and/or questionable forecasting techniques. The result of this is that the current "Master Plan" (January 1976) is nothing more than a collection of policy statements and guidelines.

At the present time it seems that two things are almost a certainty: there will be no expansion of Logan's General Aviation facilities. In fact, GA may even

be squeezed out eventually. Secondly, there will be no expansion to any airside facilities beyond the possible installation of a Category II ILS approach. Development of the airport that may occur will center upon passenger terminal and landside facilities. But even these will be carefully planned and only in response to clear cut demand.

PART 1. DEMAND FORECASTS

		Actual*	Actual*	Forecast		
	Year:	1972	1975	1980	1985	
	Enplaned Passengers (000)					
1.	Air Carrier	4870	5185	7678	9465	
2.	Commuter (Including Air Taxi)	367	65	578	712	
2a.	Air Taxi					
3.	Connecting	733		1156	1425	
4.	Originating	4504		7100	8752	
5.	Domestic	4555		7761	9566	
6.	International	682		495	611	
7.	Total Enplaned Passengers	5237	5250	8256	10177	
8.	Total FAA 1974 Forecasts			7618	9586	
	Aircraft Operations (000)					
9.	Air Carrier	245	200	274	295	
10.	Commuter (Including Air Taxi)	37		47	58	
10a.	Air Taxi					
11.	General Aviation	44		73	77	
11a.	Itinerant	44		73	77	
11b.	Local	0		0	0	
12.	Military All	1		1	1	
13.	Total Aircraft Operations	327	270	395	431	
14.	Total FAA 1974 Forecasts			404	545	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	4800		8000	10000	
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	97		230	312	

*Two columns of Actual data are shown. The reason is that the more recent Logan Master Planning efforts have centered on policy establishment rather than statistical analysis. Consequently, only a minimum amount of 1975 data is available. Correspondingly the forecasts are based on the 1972 data and trends.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4L	7870	Same		VFR
2.	22R	7032	Same		VFR
3.	4R	7494	Same		ILS
4.	22L	10002	Same		LOC
5.	9	7002	Same		VFR
6.	27	7002	Same		VOR
7.	15L	2495	Same		VFR
8.	33R	2495	Same		VFR
9.	15R	9200	Same		ILS
10.	33L	10090	Same		ILS
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 7 Class AA 5 Class A 60 Class B 3 Class C 15 Class D 10 Class E

		Actual	Forecast			
	Year:	1975	1980	1985		
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	148				
17.	Maximum Hourly Capacity (IFR)	66				
18.	Minimum Hourly Capacity (IFR)	48				
19.	Practical Annual Capacity (000)	295	351	351		

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985		
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	80	80	85		
1a. International Terminal	9	12	12		
2. Wide Body Parking Positions					
2a. International Terminal	9	8	8		
3. Gates (Passenger Exits)	80	80	85		
3a. International Terminal	9	12	12		
Ticket Counters					
4. Linear Feet	1606				
4a. International Terminal	690				
5. Stations	211				
5a. International Terminal	76				
Baggage Claim					
6. Public Area (sq ft)	80968				
6a. International Terminal	28314				
7. Equipment Types	2 Racks; 12 Carousels; 13 Conveyor Belts				
8. Equipment Capacity (bags/min)					
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers	13				
9a. International Terminal	1				
10. Manual (Carry On Baggage)	6				
10a. International Terminal	2				
11. X-ray (Carry On Baggage)	7				
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1975	1980	1985		
	Terminal Area (000 sq ft)					
12.	Total Area	1374				
12a.	International Terminal	309				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour		8000	8500		
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	410	803	1096		
16.	Apron Area (000 sq ft)	1800	2837	3974		
17.	Aircraft Parking Positions	17	26	35		
18.	Truck Loading Docks					
19.	Cargo Loading Type	X Manual	X Semi-Automatic	X Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	14000	14000	14000		
21.	Apron Area (000 sq ft)	600	600	600		
22.	Hangar Area (sq ft)	40000	40000	40000		
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot	24 hr Long Term Parking				
26.	Number of Checked Bags per Passenger	1.54				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1975	1980	1985		
	Automobile Parking Spaces					
1.	Total Public	7777	7777	7777		
1a.	Short Term	415	415	415		
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	3600	3600	3600		
	Curb Frontage					
4.	Lineal Feet	5585				
4a.	Enplaned	2586				
4b.	Deplaned	2999				
5.	International Terminal Lineal Feet	704				
5a.	Enplaned	352				
5b.	Deplaned	352				
	Mass Transit					
6.	Bus	Yes	Yes	Yes		
7.	Subway, Rail, Other	Yes	Yes	Yes		
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	82 %				
9.	Taxi	6 %				
10.	Bus (Includes Hotel Shuttles, Limos)	1 %				
11.	Subway, Rail, Other	11 %				
	Percentage of People Entering Airport					
12.	Passengers	32 %				
13.	Visitors, Well Wishers, Greeters	48 %				
14.	Employees	20 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

Aside from normal maintenance and the highly controversial possibility of the installation of a Category II ILS, almost nothing can be done to the airside facilities at Logan due to extreme community resistance to airport expansion. The PANCAP increases reflected in line 19, columns 2 and 3 are due solely to anticipated ATC improvements.

3/1,3,12/4	Gates	5	1985	6000	1974

Ultimate development of new south terminal complex includes a southerly extension.

3/15/3,4	Cargo Terminal	686 ft^2	1985

Proposed cargo facility on Bird Island Flats to be 50% complete by 1980 and 100% complete by 1985.

3/16/3,4	Apron	18 aircraft	1985	13590	1974

Part of above cargo terminal expansion project.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Beverly Municipal Code BVY

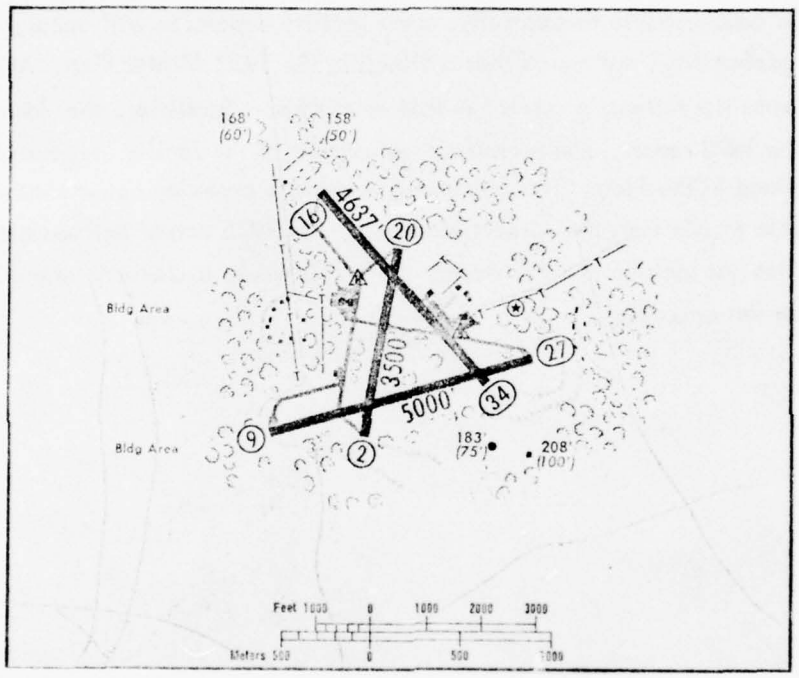
Hub Name Boston Master Plan Status 1973

Approximate Distance and Direction to Hub CBD 14 miles South

Approximate Distance and Direction to Hub Air Carrier Airport 13 miles South

Name of That Airport Boston-Logan International Number of Commuters 0

Approximate Number of Employees at Airport 80 as of 1976



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Beverly Municipal Airport is located approximately 14 statute miles north of Boston in the city of Beverly. It was built in 1928 and consisted of two orthogonal turf runways. The airport originally operated on privately owned land which was leased to the City of Beverly until 1941 when the city acquired title to the airport property. The airport now has three paved active runways numbered 16/34, 9/27, and 2/20.

According to the 1973 Master Plan for Beverly, the airport is not considered feasible as an air carrier reliever or STOL facility for the Metropolitan Boston region because of its location on the more sparsely settled "North Shore" and other airspace, economic, market, physical, and political restraints. Consequently, the airport will most likely remain as a Basic Transport facility (a large general aviation airport capable of handling 60,000 pound gross weight aircraft) throughout the 1992 time frame of the study. Although the function of the airport is not expected to change, projections indicate a substantial increase in the number of aircraft operations during the planning period.

To accommodate this activity, some facility expansion will occur, but it will, in all probability, not match that outlined in the 1973 Master Plan. As a result this airport data list reflects a current inventory of airport facilities, the forecast demand of the 1973 report, and a realistic adjustment to the facility expansion program outlined in the Plan. This adjustment was made based on current information made available to ASI from the Airport Manager. The 1975 actual data on aircraft operations does not include activity during the first 2 weeks in January when the FAA tower was not yet operable.

PART 1. DEMAND FORECASTS

	Year:	Actual 1975	1977	1982	1992	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	
1a.	Air Taxi	0				
2.	General Aviation	206	176	220	321	
2a.	Itinerant	86	58	77	119	
2b.	Local	120	118	143	202	
3.	Military All	0	0	0	0	
4.	Total Aircraft Operations	206	176	220	321	
5.	Total FAA 1974 Forecasts		145	196		
	Aircraft Movements					
6.	Peak-Day	1453	868	1085	1582	
7.	Peak-Hour		130	163	206	
	Based Aircraft					
8.	Fixed Wing	164				
8a.	Single Engine	125				
8b.	Jets	1				
8c.	Seaplane	2				
9.	Rotary Wing	4				
10.	Total Based Aircraft	168	212	265	386	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	16	4737	5000	1992	SDF	ILS	1992
2.	34	4737	5000	1992	VFR	BC-LOC	1992
3.	9	5000	Same	--	VFR	--	--
4.	27	5000	Same	--	VFR	--	--
5.	2	3500	0	1990	VFR	--	--
6.	20	3500	0	1990	VFR	--	--
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway FH-227

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B 10 Class C 40 Class D 50 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	0700-2300	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	16
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

	Year:	Actual 1972	1977	1982	1992	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	132	186	167		
23.	Maximum Hourly Capacity (IFR)		61	61	61	
24.	Practical Annual Capacity (000)	155	190	220		

PART 3. TERMINAL FACILITIES AND CAPACITIES

Year:	Actual 1975	1977	1982	1992	
1. Parking Apron Area (000 sq ft)	376	376	808	808	
2. Hangar Area (000 sq ft)	56	59	64	68	
3. T-Hangar Parking Positions	0	0	0		
4. Conventional Hangars	7	8	9	10	
5. Terminal Building Area (sq ft)	0	0	0		

PART 4. LANDSIDE FACILITIES AND CAPACITIES

Year:	Actual 1975	1977	1982	1992	
1. Automobile Parking Spaces	182	222	268	340	
2. Access Road Capacity (vehicles/hr)	1000	1000	1000	1000	
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	No	No	No	No	
5. Rail, Subway, Other Access	No	No	No	No	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2/3	Runway addition	263 ft	1992	500	1976

A 263 ft addition to runway 16/34 is planned to increase the runway length to 5000' to accommodate larger a/c

2/1,2/6	ILS	Lower Minimums	1992		----

An ILS system is planned for runway 16/34 to provide lower minimums and improve levels of safety.

2/5,6/3	Runway closing	Lost Pancap	1990	0	1976

Runway 2/20 will be allowed to deteriorate from its good condition to an unusuable state.

3/1/3	Paved Apron	432000 sq. ft	1982	378	1973

Paved apron with space for approximately 156 a/c will be installed in three separate locations. Cost estimates include security lighting which is not needed due to previous installation.

3/2/2	Conventional Hangar	3600 sq. ft.	1977		

Arrangements for a 60' x 60' conventional shop hangar are under negotiation between the airport and an FBO.

3/2/3	Conventional Hangar	4800 sq. ft	1982	35	1973

A 60' x 80' conventional shop hangar for lease will probably be erected in accordance with master plan, but somewhat earlier.

3/2/4	Conventional Hangar	4800 sq. ft	1992	35	1973

A 60' x 80' conventional shop hangar for lease will probably be erected in accordance with the master plan.

4/1/2,3,4	Auto Parking	158 spaces	1992

Increments in parking capacity will be added as demand dictates. These figures reflect demand forecasts.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Norwood Memorial Code OWD

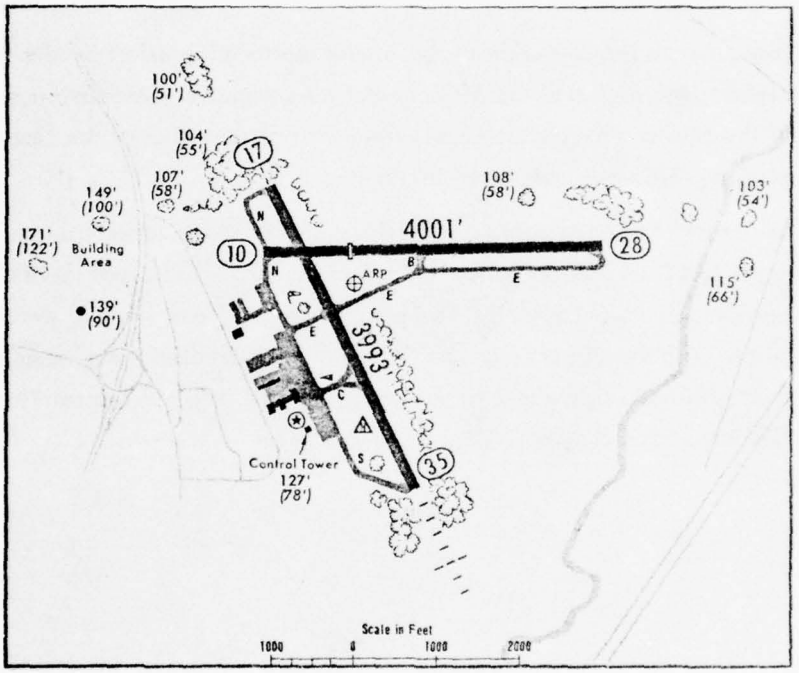
Hub Name Boston Master Plan Status 1973

Approximate Distance and Direction to Hub CBD 13 miles Northeast

Approximate Distance and Direction to Hub Air Carrier Airport 15 miles Northeast

Name of That Airport Logan International Number of Commuters 0

Approximate Number of Employees at Airport 75 as of 1976



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The Norwood Memorial Airport (OWD) is situated in the north-central portion of Norfolk County in eastern Massachusetts, approximately 1.5 miles east of the town center of Norwood and 13 miles southwest of Boston. The airport consists of two intersecting paved runways lying approximately in the east-west and north-south directions. Both runways measure about 4,000 feet in length and 150 feet in width.

In September of 1972 a draft Master Plan for the airport was published and circulated. This was followed by a number of public hearings wherein considerable negative reaction was received from both the Norwood residents and the Airport Advisory Committee (a group appointed by the Norwood Board of Selectmen). This adverse recction was further complicated by expressions from representatives of the surrounding communities and other allied sympathetic supporters against airport expansion. Following this turn of events the Norwood Airport Commission then voted not to accept, recommend or endorse the findings of the report. This local "anti-expansion" expression has been the trend in recent years, not only regarding Norwood Airport expansion, but for all modes of transportation.

Subsequent to the rejection of the initial master plan effort by the Norwood Airport Commission, the FAA and the Massachusetts Aeronautics Commission authorized an updating of the Master Plan report, apart from the participation of the Norwood Airport Commission. This was completed in 1973.

The demand forecasts contained in this data list were taken from this updated report. Although less than 500 operations occurred in 1975, OWD was served by a certified air carrier: Air New England. The expansion cost items (Part 5) were obtained through interviews with the airport manager in which he indicated those items most likely to be accomplished. Many are at variance with the original Master Plan and its recommended expansion program.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	1	0	0	0	0
1a.	Air Taxi	1	0	0	0	0
2.	General Aviation	229	275	323	363	388
2a.	Itinerant	99	119	142	162	
2b.	Local	130	156	181	201	
3.	Military Various	0	0	0	0	0
4.	Total Aircraft Operations	230	275	323	363	388
5.	Total FAA 1974 Forecasts		344	489		
	Aircraft Movements					
6.	Peak-Day	1357	1569	1754	1887	
7.	Peak-Hour	159	176	188	192	
	Based Aircraft					
8.	Fixed Wing	193				
8a.	Single Engine	160				
8b.	Jets	0				
8c.	Seaplane	2				
9.	Rotary Wing	7				
10.	Total Based Aircraft	200	270	305	330	340

OWD

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	17	3993	Same	-	VFR		
2.	35	3993	Same	-	SDF	LOC-SIL	1976
3.	10	3001	Same	-	VFR		
4.	28	3993	Same	-	VFR		
5.	4	None	4000	1985	VFR		
6.	22	None	4000	1985	VFR		
7.	17L	None	3000	1995			
8.	35R	None	3000	1995			
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 65000 lb. limit; Jetstar

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 1 Class B; 2 Class C; 16 Class D; 81 Class E

Miscellaneous Airside Data

13. FAA Tower: Yes
14. Hours of Service: 0700-2300
15. Flight Service Station: No
16. Vortac Station: No
17. Weather Station: No
18. Unicom: Yes
19. Automatic Terminal Information Service (ATIS): No
20. Primary Instrument Runway: 35
21. Joint Use: No

	Actual	Forecast			
Year:	1975				
Airside Capacities (Operations)					
22. Maximum Hourly Capacity (VFR)	122				
23. Maximum Hourly Capacity (IFR)	61				
24. Practical Annual Capacity (000)	189				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1977	1982	1992	
1. Parking Apron Area (000 sq ft)	662	803	1089	1339	
2. Hangar Area (000 sq ft)	261	271	271	271	
3. T-Hangar Parking Positions	10	25	25	25	
4. Conventional Hangars	9	10	10	10	
5. Terminal Building Area (sq ft)	18000	25200	27700	27700	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1977	1982	1992	
1. Automobile Parking Spaces	300	340	410	510	
2. Access Road Capacity (vehicles/hr)	1200	1200	1200	1200	
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	No				
5. Rail, Subway, Other Access	No	No	No	No	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/2/6	Landing Aid	Lower Minimums	1976		

An ILS localizer is planned for installation in 1976. The cost of the installation is unknown at this time but should be the normal fee.

2/5,6/3	New Runway	80,000 PANCAP	1985	1,000	1976

Although very controversial, there is some possibility that a new runway (04/22) could be installed to ease the noise problem associated with runway 10/28.

2/7,8/3	Runway 17L/35R	66.6K PANCAP	1995

This runway - called for in the Master Plan will probably never be installed.

3/1/2	Apron	141,000 sq. ft	1977	25	1975

Apron and tie downs are planned to accommodate growth in based a/c of about 20 units.

3/1/3	Apron	286,000 sq. ft	1982	75	1975

Apron and tie downs are planned to accommodate growth in based a/c of about 56 units.

3/1/4	Apron	250,000 sq. ft	1992

Apron and tie downs are planned to accommodate growth in based a/c of about 23 units.

3/3/2	T-hangar	15 positions	1977	50	1975

One T-hangar with 15 parking stalls is planned.

3/2/2	Conventional Hangar	10,000 sq. ft	1977	100	1975

Construction of one conventional hangar of unspecified dimension is being considered; approximate area = 10,000 sq. ft.

3/5/2	Building	7200 sq. ft	1977	20	1975

A small building housing mostly airport administrative offices is contemplated.

3/5/3	Building	2500 sq. ft	1982

A new terminal building to replace the existing facility is contemplated.

4/1/4	Parking	210 spaces

The airport intends to expand parking facilities in accordance with the demand. No formal plans are available.

OWD

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Merrill C. Meigs Field Code CGX

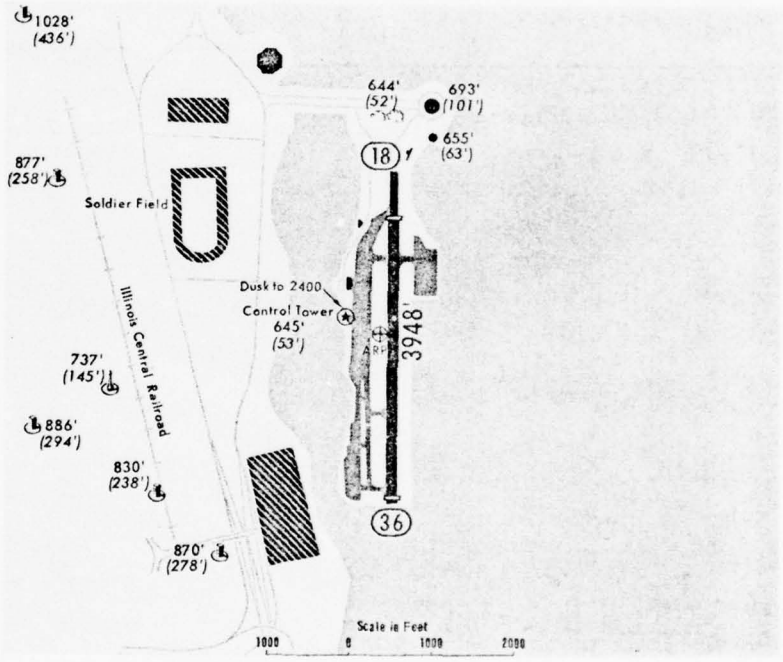
Hub Name Chicago Master Plan Status None

Approximate Distance and Direction to Hub CBD 3 Miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 3 Miles

Name of That Airport Midway Number of Commuters 2

Approximate Number of Employees at Airport 90 as of 1975



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Meigs Field handles basically general aviation traffic including service by two commuter carriers. There are no general aviation aircraft based at Meigs. The airport has no plans for the future until more is known about the situation at Midway. The only semi-definite plan appears to be the desire to extend the present single runway from 3950 to 5000 feet. This is an expensive proposal since it would require to fill in part of the lake. Thus, a 1000 foot extension could cost about ten million dollars.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1978	1981	1986	_____
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	10				
1a.	Air Taxi					
2.	General Aviation	52				
2a.	Itinerant					
2b.	Local					
3.	Military	0.5				
4.	Total Aircraft Operations	62.5				
5.	Total FAA 1974 Forecasts		84	99	143	
	Aircraft Movements					
6.	Peak-Day	583				
7.	Peak-Hour	53				
	Based Aircraft					
8.	Fixed Wing	0				
8a.	Single Engine	0				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	0				

CGX

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	18	3950	5000	1980	VFR		
2.	36	3950	5000	1980	VFR	MLS	
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway 55,000 lbs

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B 10% Class C 70% Class D 20% Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	18	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	18
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

	Year:	Actual 1974		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	200				

CGX

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Parking Apron Area (000 sq ft)	162.0				
2. Hangar Area (000 sq ft)	9.5				
3. T-Hangar Parking Positions	0				
4. Conventional Hangars	1				
5. Terminal Building Area (sq ft)	15000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Automobile Parking Spaces	150				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

CGX

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2/3	Runway	1050 ft	1980	10,000	1976

Extend runway to 5,000 feet.

CGX

GENERAL AVIATION AIRPORT DATA LIST

Airport Name DuPage County Code DPA

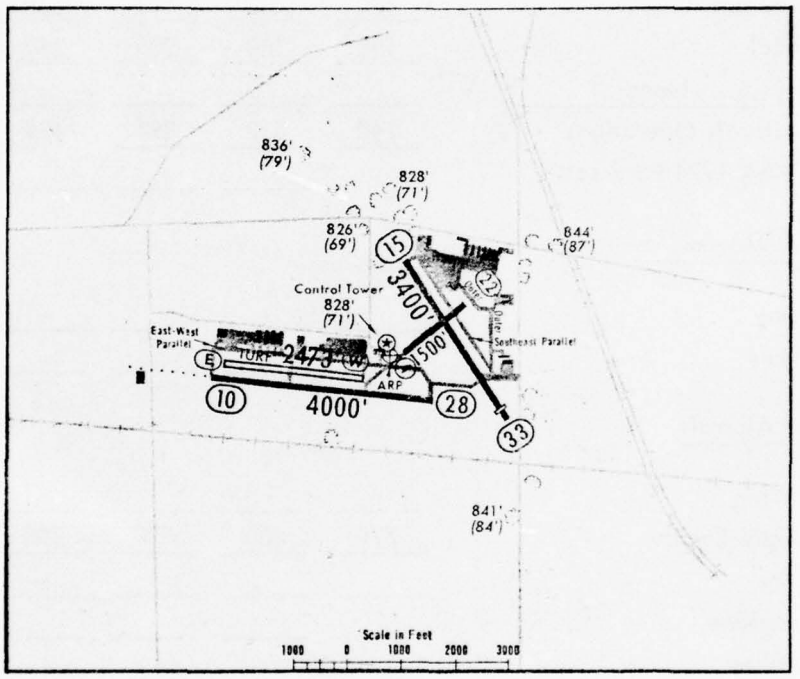
Hub Name Chicago Master Plan Status None

Approximate Distance and Direction to Hub CBD 35 Miles East

Approximate Distance and Direction to Hub Air Carrier Airport 18 Miles East

Name of That Airport O'Hare International Number of Commuters

Approximate Number of Employees at Airport as of



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1971	1975	1980	1985	1990
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	0
1a.	Air Taxi					
2.	General Aviation	240	312	391	479	550
2a.	Itinerant	190	132	191	269	330
2b.	Local	150	180	200	210	220
3.	Military None					
4.	Total Aircraft Operations	240	312	391	479	550
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing					
8a.	Single Engine	370	450	570	720	860
8b.	Jets					
8c.	Seaplane					
9.	Rotary Wing					
10.	Total Based Aircraft	416	540	710	880	1100

DPA

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	4	1500	Same	--	VFR		
2.	22	1500	Same	--	VFR		
3.	10	4000	5000		LOC		
4.	28	4000	5000		VFR		
5.	E	2473	Same	--	VFR (TURF)		
6.	W	2473	Same	--	VFR (TURF)		
7.	15	3400	Same	--	VFR		
8.	33	3195	Same	--	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 50,000 dual wheel

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; ____ Class B; ____ Class C; ____ Class D; ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	10/28
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	118				
23.	Maximum Hourly Capacity (IFR)	0				
24.	Practical Annual Capacity (000)	170				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	_____	_____	_____	_____	_____
1. Parking Apron Area (000 sq ft)	_____	_____	_____	_____	_____
2. Hangar Area (000 sq ft)	_____	_____	_____	_____	_____
3. T-Hangar Parking Positions	_____	_____	_____	_____	_____
4. Conventional Hangars	_____	_____	_____	_____	_____
5. Terminal Building Area (sq ft)	_____	_____	_____	_____	_____

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	_____	_____	_____	_____
1. Automobile Parking Spaces	_____	_____	_____	_____	_____
2. Access Road Capacity (vehicles/hr)	_____	_____	_____	_____	_____
3. Rental Car Service	Yes	_____	_____	_____	_____
4. Bus Access	No	_____	_____	_____	_____
5. Rail, Subway, Other Access	No	_____	_____	_____	_____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3, 4/3	Runway	1,000 ft.			

Extension of runway 10/28 1,000 feet to total length of 5,000 feet.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Gary Municipal Code GYY

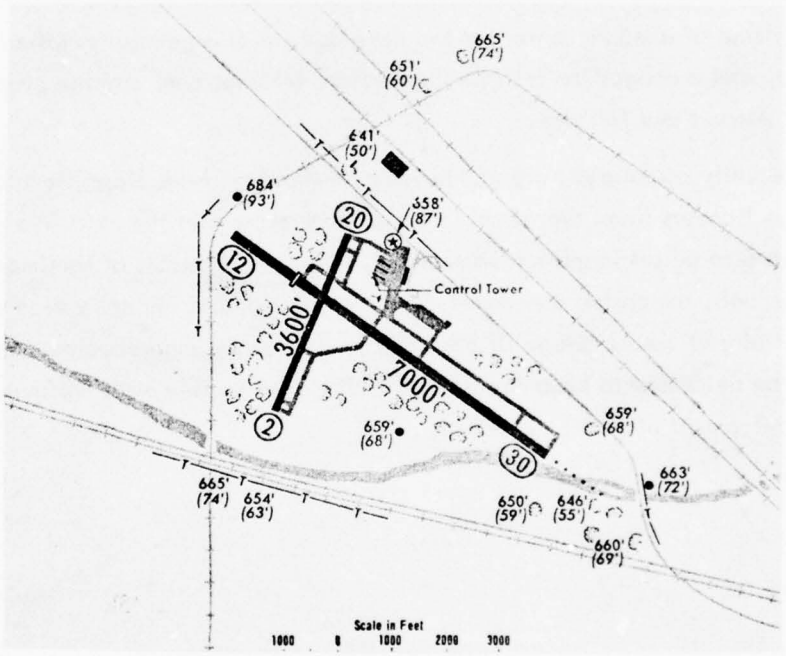
Hub Name Chicago Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 30 Miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 45 miles

Name of That Airport Chicago O'Hare Number of Commuters 0

Approximate Number of Employees at Airport 30 as of 1975



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The Gary Municipal Airport is presently a general aviation airport. Activities consist of pilot training, corporate aircraft operated by the area industries and locally based privately owned aircraft. There are no scheduled commuter operations at the airport.

During the fifties, Gary was served by one scheduled airline -- Lake Central Airlines. The airline service consisted of two daily flights into Gary. How-

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ever, due to air traffic delays caused by air space congestion, Lake Central had a disproportionately high percentage of cancellations. Under those conditions, Gary was limited to the status of VFR airport, operating only under "visual flight rule" conditions.

In recent years, the air space structure in the vicinity of Gary has improved and the airport presently operates under both VFR and IFR conditions. The changes in air space structure can be partially attributed to the reduction in aircraft at Midway Airport and partially due to the Air Traffic Control Tower purchased by the city of Gary in 1970.

As a result of the development along the periphery of the airport site -- commercial, industrial, residential and transportation systems -- the role of Gary is projected to be that of a major center for the development of a general aviation hub for the entire area, and a congestion reliever for O'Hare International and the proposed Third Regional Airport and Midway.

A recently completed Airport Master Plan shows a Three Stage Development Program. Stage I covers items that should be implemented within the next five years with some of them to be set in motion immediately. Stage II consists of the improvements necessary for growth, expansion and development in the demand/capacity area and for convenience of airport users. Stage III encompasses the long-range development program that will be necessary to keep the airport facility compatible with the overall growth and development of the total industry.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1985	1995		
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	6	14		
1a.	Air Taxi	0				
2.	General Aviation	59	163	212		
2a.	Itinerant	36	54	69		
2b.	Local	23	109	143		
3.	Military					
4.	Total Aircraft Operations	59	169	226		
5.	Total FAA 1974 Forecasts		126			
	Aircraft Movements					
6.	Peak-Day	220				
7.	Peak-Hour	75				
	Based Aircraft					
8.	Fixed Wing	147	150	250		
8a.	Single Engine	100	60	88		
8b.	Jets	0				
8c.	Seaplane	0	0	0		
9.	Rotary Wing	3	0	0		
10.	Total Based Aircraft	150	150	250		

GYY

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	20	3600	5500	1980	VFR		
2.	2	3600	5500	1980	VFR		
3.	12	6300			VFR	ILS	1976
4.	30	7000			ILS		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway B-727

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B 10 Class C 30 Class D 60 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	12
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

	Year:	Actual 1975	1985	Forecast 1995		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	70				
23.	Maximum Hourly Capacity (IFR)	12				
24.	Practical Annual Capacity (000)	100		225		

GYY

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1995	
1. Parking Apron Area (000 sq ft)	90.7				
2. Hangar Area (000 sq ft)	201.6				
3. T-Hangar Parking Fositions	44				
4. Conventional Hangars	2				
5. Terminal Building Area (sq ft)	0	14000	14000	14000	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1995	
1. Automobile Parking Spaces	50	150	250	250	
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

GYY

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1/3	Airside		1980	1,100	1975
Upgrade Taxiways, Ramps, Navaids.					
2/1/3	Airside		1985	400	1975
Taxiways, Aprons					
2/1,2/3		1900 ft	1995	1,262	1975
Runway, Taxiways, Aprons, Lighting, Navaids.					
3/5/2			1980	1,870	1975
Terminal Building, Crash Rescue/Maintenance, Control Tower, T-Hangars.					
3/ /	Hotel		1985	1,500	1975
Skytel.					
3/3/			1995	3,198	1975
T-Hangars, Executive Hangar, Air Cargo Building.					
4/			1980	1,700	1975
Roadways, Landscaping, Drainage, Sewer, Fencing, etc.					
4/			1985	78	1975
Fencing, Site Preparation.					
4/			1995	495	1975
Landscaping, Drainage, Fencing Site Site Preparation.					

GYY

AIR CARRIER AIRPORT DATA LIST

Airport Name Chicago Midway Code MDW

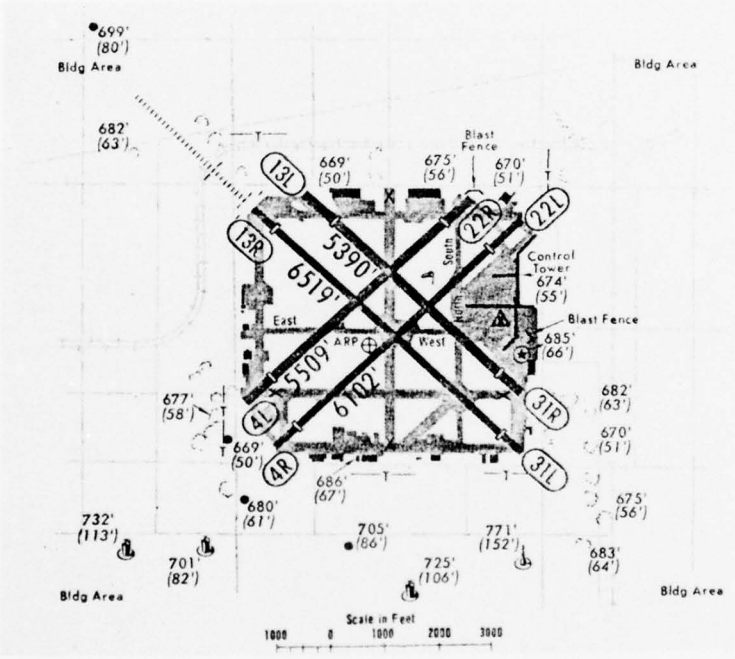
Hub Name Chicago Master Plan Status Underway (1979-1980)

Approximate Distance and Direction to Hub CBD 9 Miles Northeast

Approximate Number of Employees at Airport 1,000 as of 1976

Number of Air Carriers 3 Commuters 0

Terminal Type: ____ Linear X Pier X Satellite ____ Transporter



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Prior to the opening of Chicago's O'Hare Airport, Chicago Municipal Airport, later known as the Midway Airport, handled almost all of the commercial air traffic to, from and through the Chicago area. In fact, Midway was considered to be the busiest airport in the world. However, O'Hare was opened to commercial traffic in 1955 and it began to compete with Midway. By 1961, O'Hare had surpassed Midway to become the busiest airport in the world.

At present there are only two scheduled air carriers offering service through Midway. Even these two carriers offer token service only -- about three flights each day. Despite the lack of commercial traffic, Midway maintains full facilities, hoping that the scheduled carriers would return from O'Hare. Each of the large carriers still maintain terminal space but there are no scheduled flights. The carriers have not renegotiated the lease for the next year. The airport and the mayor are hoping that the carriers would return to offer approximately 200 flights each day.

The airport manager was unable to provide any information on future plans and referred the study team to the Chicago Department of Transportation.

PART 1. DEMAND FORECASTS

		Actual Year: 1975	Forecast 1978	1981	1986	
	Enplaned Passengers (000)					
1.	Air Carrier	34				
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	34				
6.	International	0				
7.	Total Enplaned Passengers	34				
8.	Total FAA 1974 Forecasts		881	2612	4255	
	Aircraft Operations (000)					
9.	Air Carrier	4.8*				
10.	Commuter (Including Air Taxi)	0				
10a.	Air Taxi	0				
11.	General Aviation	77				
11a.	Itinerant	5				
11b.	Local	72				
12.	Military Mixed	10				
13.	Total Aircraft Operations	91.8				
14.	Total FAA 1974 Forecasts		222	225	230	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	1000				

*Includes Chicago Helicopter Operations.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	13L	4572			VFR
2.	31R	4951			VFR
3.	13R	6051			ILS
4.	31L	6137			ILS
5.	4L	5118			VFR
6.	22R	4772			VFR
7.	4R	5590			ILS
8.	22L	5346			VFR
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 0 Class AA 0 Class A 4 Class B 21 Class C 25 Class D 50 Class E

	Actual		Forecast		
Year:					
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)					
17. Maximum Hourly Capacity (IFR)					
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)					

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	29				
1a. International Terminal	0				
2. Wide Body Parking Positions	0				
2a. International Terminal	0				
3. Gates (Passenger Exits)	29				
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet	500				
4a. International Terminal	0				
5. Stations	80				
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)	95000				
6a. International Terminal	0				
7. Equipment Types	2 Carousels and 5 conveyor belts				
8. Equipment Capacity (bags/min)	420				
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers	1				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	1				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	0				
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1975				
	Terminal Area (000 sq ft)					
12.	Total Area	280				
12a.	International Terminal	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour					
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	0				
16.	Apron Area (000 sq ft)	0				
17.	Aircraft Parking Positions	0				
18.	Truck Loading Docks	0				
19.	Cargo Loading Type	X Manual	___ Semi-Automatic		___ Fully Automatic	
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)					
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1975				
	Automobile Parking Spaces					
1.	Total Public	1320				
1a.	Short Term	1320				
2.	Rental Car	100				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	1500				
4a.	Enplaned					
4b.	Deplaned					
5.	International Terminal Lineal Feet	0				
5a.	Enplaned	0				
5b.	Deplaned	0				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	____%				
9.	Taxi	____%				
10.	Bus (Includes Hotel Shuttles, Limos)	____%				
11.	Subway, Rail, Other	____%				
	Percentage of People Entering Airport					
12.	Passengers	____%				
13.	Visitors, Well Wishers, Greeters	____%				
14.	Employees	____%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

MDW

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

AIR CARRIER AIRPORT DATA LIST

Airport Name Chicago-O'Hare International Code ORD

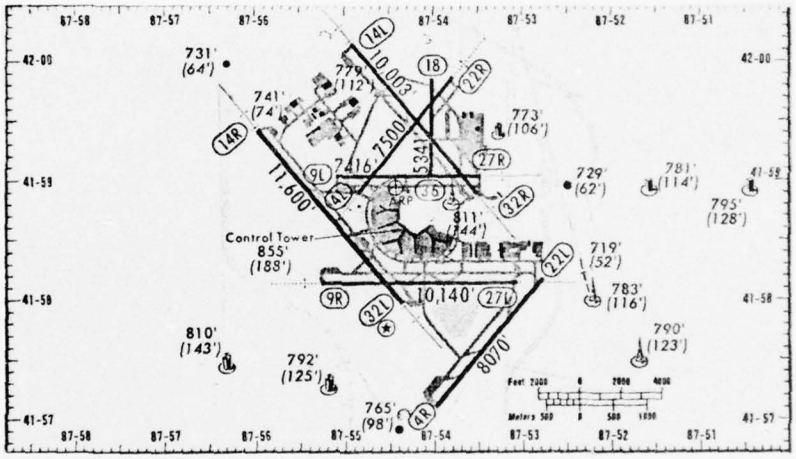
Hub Name Chicago Master Plan Status Underway (1979-1980)

Approximate Distance and Direction to Hub CBD 18 Miles Southeast

Approximate Number of Employees at Airport 33,000 as of 1976

Number of Air Carriers 28 Commuters 5

Terminal Type: X Linear X Pier ___ Satellite ___ Transporter

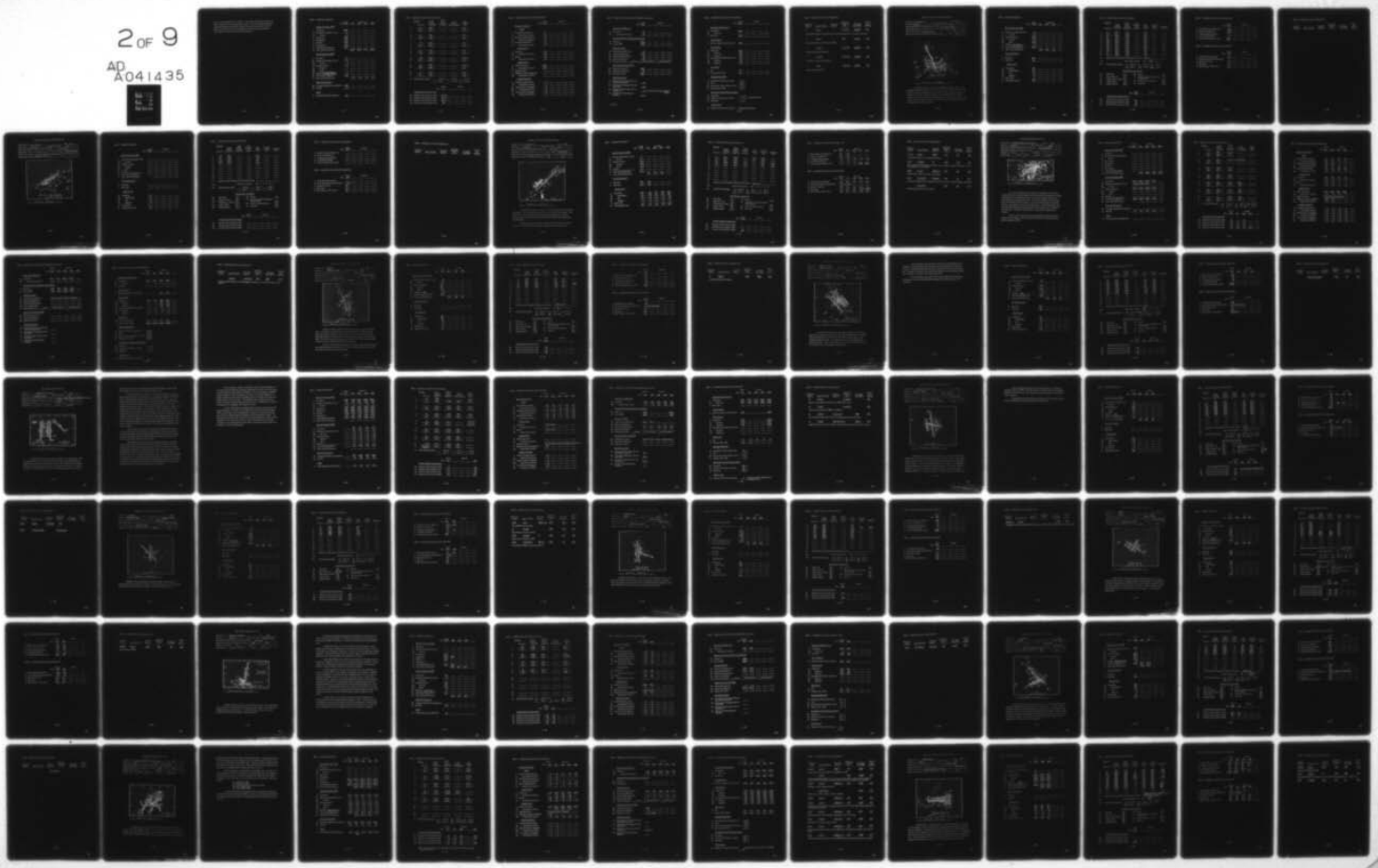


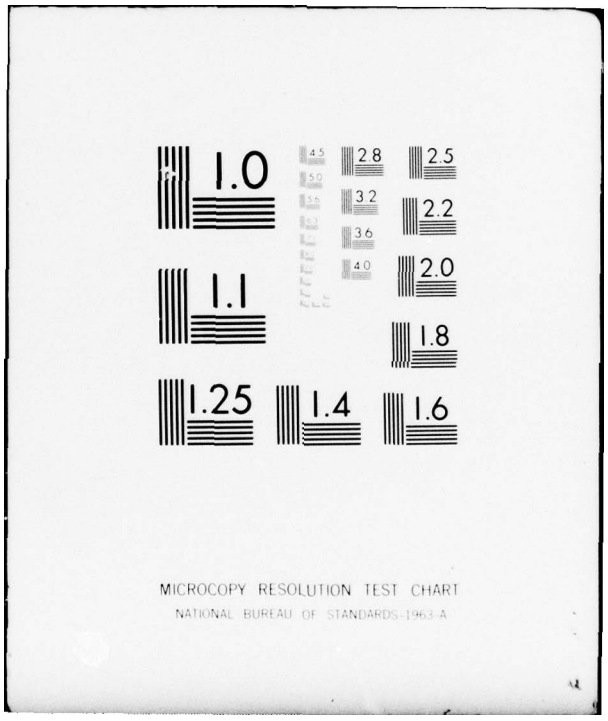
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The future of O'Hare depends to a large extent on the outcome of the proposed revitalization of Midway Airport. For a number of years the City of Chicago has urged the certificated scheduled carriers to commit themselves to the revitalization of Midway. In January 1973 Mayor Daley and Commissioner Downes appeared before the CAB to enlist its support in this matter. While the Board chose not to involve itself with the carriers at that time, numerous members of Congress subsequently expressed interest in the case. In July 1974 the FAA released the report entitled "The Chicago Midway Airport

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA
UNCLASSIFIED FAA-AVP-77-26 NL

2 OF 9
AD A041435




1.0
1.1
1.25
1.4
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5.0
5.6
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Study," which supported the City's position. This report concluded that Midway is an essential component of the Chicago Airport System. By transferring about 40 percent of Chicago's high density short-haul flights over the next few years from O'Hare to Midway, the latter could become considerably less congested and consequent air traffic delays at O'Hare would be reduced substantially.

PART 1. DEMAND FORECASTS

		Actual Year: 1974	Forecast 1977	1978	1981	1986
	Enplaned Passengers (000)					
1.	Air Carrier	18800				
2.	Commuter (Including Air Taxi)	163				
2a.	Air Taxi	0				
3.	Connecting	9400				
4.	Originating	9400				
5.	Domestic	17500				
6.	International	1000				
7.	Total Enplaned Passengers	18963				
8.	Total FAA 1974 Forecasts		18455	19298	21173	25184
	Aircraft Operations (000)					
9.	Air Carrier	617				
10.	Commuter (Including Air Taxi)	39				
10a.	Air Taxi	0				
11.	General Aviation	26				
11a.	Itinerant					
11b.	Local					
12.	Military Air Force Reserve / Air National Guard	4				
13.	Total Aircraft Operations	686				
14.	Total FAA 1974 Forecasts		725	727	741	770
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	15000				
16.	Aircraft	150				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	885				

ORD

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4R	8070			ILS
2.	22L	8070			ILS
3.	4L	7500			ILS
4.	22R	7500			ILS
5.	9R	10140			ILS
6.	27L	10140			ILS
7.	9L	7416			ILS
8.	27R	7416			ILS
9.	14R	11600			ILS-II
10.	32L	11600			ILS
11.	14L	10000			ILS-II
12.	32R	10000			ILS
13.	18	5341			VFR
14.	36	5341			VFR

15. Fleet Mix (Percentage) ____ Class AA ____ Class A ____ Class B ____ Class C ____ Class D 0 Class E

		Actual	Forecast			
	Year:	1974				
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	130-150				
17.	Maximum Hourly Capacity (IFR)	125-130				
18.	Minimum Hourly Capacity (IFR)	110-112				
19.	Practical Annual Capacity (000)	700				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1974	Forecast			
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	85				
1a. International Terminal	13				
2. Wide Body Parking Positions	32				
2a. International Terminal	13				
3. Gates (Passenger Exits)	81				
3a. International Terminal	13				
Ticket Counters					
4. Linear Feet	1120				
4a. International Terminal	315				
5. Stations	160				
5a. International Terminal	50				
Baggage Claim					
6. Public Area (sq ft)	26000				
6a. International Terminal	5238				
7. Equipment Types					
8. Equipment Capacity (bags/min)					
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers	8				
9a. International Terminal	1				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	8				
11a. International Terminal	1				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1974				
	Terminal Area (000 sq ft)					
12.	Total Area	516				
12a.	International Terminal	95				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	20000				
14.	Annual (000)	37000				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	92*				
16.	Apron Area (000 sq ft)	1102*				
17.	Aircraft Parking Positions	10*				
18.	Truck Loading Docks	80*				
19.	Cargo Loading Type	X Manual	X Semi-Automatic		Fully Automatic	
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	15000				
21.	Apron Area (000 sq ft)	80				
22.	Hangar Area (sq ft)	60000				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	19%				
24.	Percentage of Passengers Who Use Curb Only	48%				
25.	Average Length of Stay of Car in Parking Lot	3 hrs. short-term; 3-4 days long-term parking				
26.	Number of Checked Bags per Passenger	2.0				

* Joint Use

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1974				
	Automobile Parking Spaces					
1.	Total Public	13500				
1a.	Short Term					
2.	Rental Car	1260				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2400				
	Curb Frontage					
4.	Lineal Feet	3592				
4a.	Enplaned	1796				
4b.	Deplaned	1796				
5.	International Terminal Lineal Feet	1842				
5a.	Enplaned	921				
5b.	Deplaned	921				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	70 %				
9.	Taxi	10 %				
10.	Bus (Includes Hotel Shuttles, Limos)	20 %				
11.	Subway, Rail, Other	0 %				
	Percentage of People Entering Airport					
12.	Passengers	- % } 1 visitor/passenger				
13.	Visitors, Well Wishers, Greeters	- % }				
14.	Employees	%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	0.59 vehicle/passenger				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2	Airside		1975-1979	$184,000	1967
Airfield Development (land acquisition, avigational easements, new runways, taxiways).					
2	Runway		1975	$ 6,900	1975
Runway Improvements (9L-27R and 4L-22R).					
3	Terminal		1976-1979	$360,000	1968
Domestic Terminal Development.					
3	Terminal		1977-1979	$165,000	1968
International Terminal Development.					
4	Cargo		1976-1978	$70,000	1967
Cargo Area Development					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Pal-Waukee Code PWK

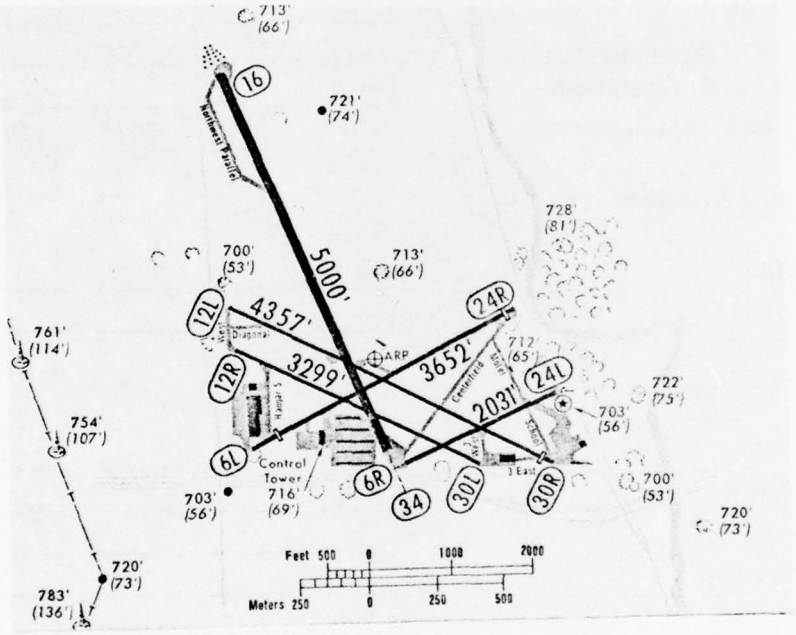
Hub Name Chicago Master Plan Status None

Approximate Distance and Direction to Hub CBD 27 Miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 8 Miles

Name of That Airport Chicago O'Hare Number of Commuters 0

Approximate Number of Employees at Airport 140 as of 1975



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Pal-Waukee airport is a privately owned general aviation airport. The management spoke about the rising costs and felt that unless federal, state and local help was available, the airport may not exist for very long. The airport owner was confident that there was sufficient capacity to accommodate substantial traffic. However, he felt that operating costs had escalated out of proportion to revenue. The airport owner was not able to supply much of the information requested. There were no committed future plans at present.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1978	1981	1986	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.6				
1a.	Air Taxi	0.5				
2.	General Aviation	223.0				
2a.	Itinerant	91.0				
2b.	Local	132.0				
3.	Military Navy Reserve	0.1				
4.	Total Aircraft Operations	223.7				
5.	Total FAA 1974 Forecasts		279	331	475	
	Aircraft Movements					
6.	Peak-Day	1558				
7.	Peak-Hour	150				
	Based Aircraft					
8.	Fixed Wing	398				
8a.	Single Engine	119				
8b.	Jets	25				
8c.	Seaplane	4				
9.	Rotary Wing	2				
10.	Total Based Aircraft	400				

PWK

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	6R	2031	Same		VFR		
2.	24L	2031	Same		VFR		
3.	6L	3652	Same		VFR		
4.	24R	3652	Same		VFR		
5.	12R	3299	Same		VFR		
6.	30L	3299	Same		VFR		
7.	12L	4357	Same		VFR		
8.	30R	4357	Same		VFR		
9.	16	5000	Same		ILS		
10.	34	5000	Same		VFR		

11. Heaviest Aircraft Capable of Using Primary Runway: BAC-111

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 5% Class C; 7% Class D; 88% Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	16
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	No			

		Year: Actual 1975	Forecast			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	150				
23.	Maximum Hourly Capacity (IFR)	25				
24.	Practical Annual Capacity (000)	280				

PWK

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	648.0				
2. Hangar Area (000 sq ft)	630.0				
3. T-Hangar Parking Positions	70				
4. Conventional Hangars	6				
5. Terminal Building Area (sq ft)	6000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	220				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

PWK

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

PWK

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Burke Lakefront Code BKL

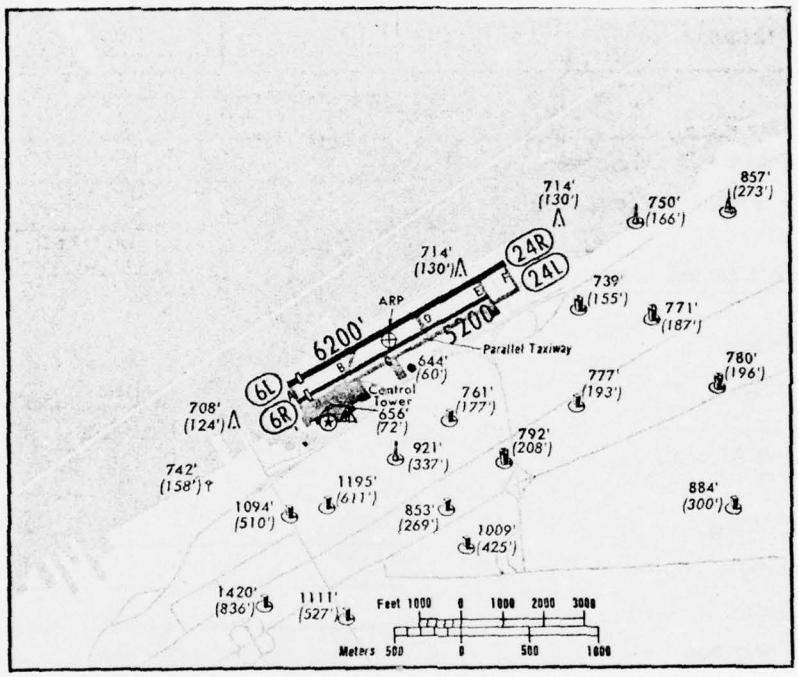
Hub Name Cleveland Master Plan Status 1972

Approximate Distance and Direction to Hub CBD 1/2 Mile South

Approximate Distance and Direction to Hub Air Carrier Airport 10 Miles Southwest

Name of That Airport Cleveland-Hopkins International Number of Commuters 1

Approximate Number of Employees at Airport _____ as of _____



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975				
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)					
1a.	Air Taxi					
2.	General Aviation					
2a.	Itinerant					
2b.	Local					
3.	Military					
4.	Total Aircraft Operations					
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	33				
8a.	Single Engine	15				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	1				
10.	Total Based Aircraft	34				

BKL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	6R	4924			VFR		
2.	24L	5200			VFR		
3.	6R	5925			VFR		
4.	24R	6200			LOC		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	24R
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

	Year:	Actual		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)					

BKL

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	0				
4. Conventional Hangars	1				
5. Terminal Building Area (sq ft)					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces					
2. Access Road Capacity (vehicles/hr)	2 Lanes				
3. Rental Car Service	No				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

BKL

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

BKL

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Cuyahoga County Code CGF

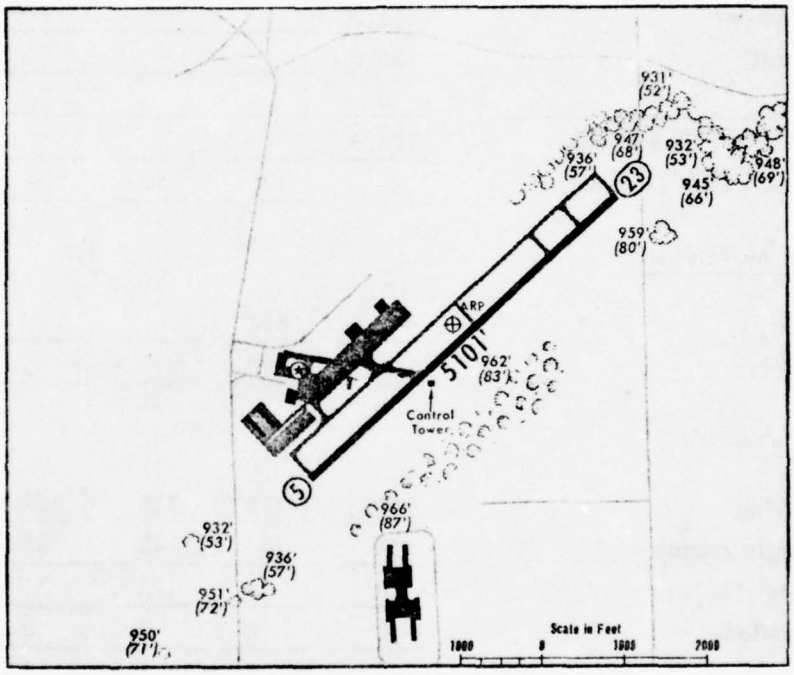
Hub Name Cleveland Master Plan Status None

Approximate Distance and Direction to Hub CBD 11 Miles West

Approximate Distance and Direction to Hub Air Carrier Airport 30 Miles West

Name of That Airport Cleveland Hopkins International Number of Commuters 0

Approximate Number of Employees at Airport 500 as of 1976



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Cuyahoga County Airport is located in the Northeast part of the Cleveland metropolitan area, on the opposite side of the city from Hopkins International. Most of the flying is corporate related business (executive and test flying). Gruman American maintains a facility on the North side of the airport for building and testing light planes.

Auto parking, apron and hangar sizes are estimated. Costs and expansion projects are taken from 1975 ten-year capital improvement project descriptions.

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PART 1. DEMAND FORECASTS

	Year:	Actual 1974	1975	Forecast 1980	1985	1990
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi	0				
2.	General Aviation	122.6				
2a.	Itinerant	66.3				
2b.	Local	56.3				
3.	Military	0				
4.	Total Aircraft Operations	122.6				
5.	Total FAA 1974 Forecasts		136	180	254	
	Aircraft Movements					
6.	Peak-Day	467	467			
7.	Peak-Hour	100	100			
	Based Aircraft					
8.	Fixed Wing	203	178	215	269	362
8a.	Single Engine	155	140	145	181	245
8b.	Jets	18	18	25	31	42
8c.	Seaplane	0	0	0	0	0
9.	Rotary Wing	1	1	1	1	1
10.	Total Based Aircraft	204	179	216	270	363

CGF

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	5	5101	Same	--	LOC	Same	--
2.	23	5101	Same	--	ILS	Same	--
3.	5R	None	2810	1977	--	VFR	1977
4.	23L	None	2810	1977	--	VFR	1977
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: Gruman -2

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	23
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

	Year:	Actual 1974		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	400				

CGF

PART 3. TERMINAL FACILITIES AND CAPACITIES

Year:	Actual 1974	1975	Forecast 1980	1985	1990
1. Parking Apron Area (000 sq ft)	875	875			
2. Hangar Area (000 sq ft)	146	146			
3. T-Hangar Parking Positions	20	20	65	65	65
4. Conventional Hangars	6	6	8		
5. Terminal Building Area (sq ft)	0	0	0	15000	15000

PART 4. LANDSIDE FACILITIES AND CAPACITIES

Year:	Actual 1974	1975	Forecast 1980	1985	1990
1. Automobile Parking Spaces	200	200	650	650	650
2. Access Road Capacity (vehicles/hr)	2 lanes; 25 mph				
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	No	No	No	Maybe	Maybe
5. Rail, Subway, Other Access	No	No	No	No	No

CGF

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3,4/1	Runway	2810 ft.	1977	953	1975
New parallel VFR runway and adjacent taxiway.					
3/3/3	T-hangars	45	1978	1225	1975
Price includes site improvements, drainage, etc. as well as T-hangars themselves. Further cost breakdown is not available.					
3/5/4	Terminal	15000 sq.ft.	1981	600	1975
Administration, office, and public use building.					
4/1/3	Auto Parking	450 spaces	1981	294	1975
Enlarge auto parking areas as needed over next five (5) years; number of spaces is estimated.					
	Access Road		1978	492	1975
Complete Stage II entry road to airport.					

CGF

AIR CARRIER AIRPORT DATA LIST

Airport Name Cleveland-Hopkins International Code CLE

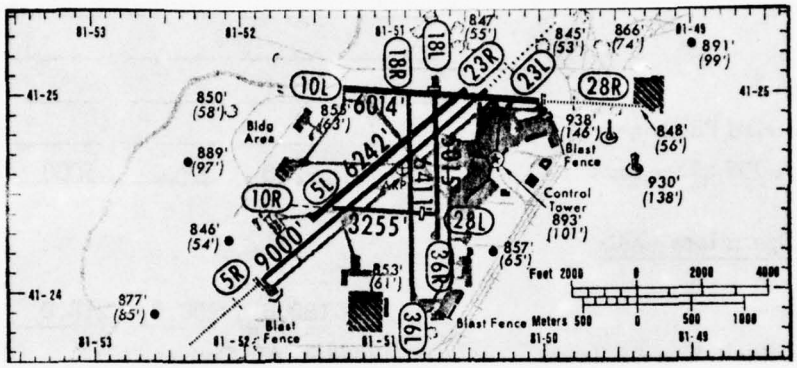
Hub Name Cleveland Master Plan Status None

Approximate Distance and Direction to Hub CBD 10 miles Northeast

Approximate Number of Employees at Airport _____ as of _____

Number of Air Carriers 9 Commuters 0

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter



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The city of Cleveland, Ohio is preparing a modification of the runway configuration of the Cleveland Hopkins International Airport for purposes of increasing the airside capacity of the airport so that it can meet the airport's forecast for air traffic demands of Cleveland until 1980. Improvements include constructing a new main runway parallel to the existing main runway and extending the two crosswind runways, plus related taxiway and apron developments. Environmental Impact Statements have been prepared and numerous hearings and discussions on this expansion have been held. At present, the construction of these runway improvements is uncertain.

The city is also improving the existing passenger terminal complex and adjacent access roadways. The improvements will result in an increase of terminal square footage by over 50%.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1970	1975	1980	1985	1990
	Enplaned Passengers (000)					
1.	Air Carrier					
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic					
6.	International					
7.	Total Enplaned Passengers					
8.	Total FAA 1974 Forecasts		2745	3900	5000	6100
	Aircraft Operations (000)					
9.	Air Carrier	147.9	180.0	200.0	218.0	
10.	Commuter (Including Air Taxi)	Included in Air Carrier.				
10a.	Air Taxi					
11.	General Aviation	105.3	262.0	328.0	394.0	
11a.	Itinerant					
11b.	Local					
12.	Military					
13.	Total Aircraft Operations	253.2	442.0	528.0	612.0	
14.	Total FAA 1974 Forecasts					
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft	79	87	104	124	
	Cargo					
17.	Total Enplaned Cargo (000 Tons)					

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	5R	9000	Same		
2.	23L	9000	Same		
3.	5L	6242	None - To be phased out		
4.	23R	6242			
5.	10R	3255	Same		
6.	28L	2727	Same		
7.	10L	6014	Same		
8.	28R	6014	Same		
9.	18R	6411	7606	1980	
10.	36L	6411	7606	1980	
11.	18L	4522	5722	1980	
12.	36R	5015	6215	1980	
13.	5L	New	8000	1980	
14.	23R	New	8000	1980	

15. Fleet Mix (Percentage) 6 Class AA 4 Class A 43 Class B
3 Class C 44 Class D/E Class E

	Actual		Forecast		
Year:	1970	1975	1980	1985	
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	80	71	88		
17. Maximum Hourly Capacity (IFR)	59	57	67		
18. Minimum Hourly Capacity (IFR)	58	56	67		
19. Practical Annual Capacity (000)	361	344	415	428	

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1970	1975	1980	1985	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	36	36	39	39	
1a. International Terminal	0	0	0	0	
2. Wide Body Parking Positions	32	32			
2a. International Terminal	0	0	0	0	
3. Gates (Passenger Exits)	36	36	39	39	
3a. International Terminal	0	0	0	0	
Ticket Counters					
4. Linear Feet	199	199	510	510	
4a. International Terminal	0	0	0	0	
5. Stations	47	47			
5a. International Terminal	0	0	0	0	
Baggage Claim					
6. Public Area (sq ft)	12740	12740	19428	19428	
6a. International Terminal	0	0	0	0	
7. Equipment Types	4 Carousels, 1 large conveyor				
8. Equipment Capacity (bags/min)	300	300			
8a. International Terminal	0	0			
Security Inspection					
9. Parallel Passenger Servers	4	4	4	4	
9a. International Terminal	0	0	0	0	
10. Manual (Carry On Baggage)	0	0	0	0	
10a. International Terminal	0	0	0	0	
11. X-ray (Carry On Baggage)	4	4	4	4	
11a. International Terminal	0	0	0	0	

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1970	1975	1980	1985	1990
	Terminal Area (000 sq ft)					
12.	Total Area	411.1	411.1	632.4	632.4	
12a.	*International Terminal*	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	2230	2230	4900	4900	
14.	Annual (000)	5566	5566	14000	14000	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	Data on cargo facilities not available				
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions					
18.	Truck Loading Docks					
19.	Cargo Loading Type ____Manual ____Semi-Automatic ____Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)					
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1970	1975	1980	1985	_____
	Automobile Parking Spaces					
1.	Total Public	3662	3662	3668	3668	_____
1a.	Short Term	_____	_____	_____	_____	_____
2.	Rental Car	_____	_____	_____	_____	_____
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	_____	_____	2471	2471	_____
	Curb Frontage					
4.	Lineal Feet	250	250	1680	1680	_____
4a.	Enplaned	_____	_____	810	810	_____
4b.	Deplaned	_____	_____	870	870	_____
5.	International Terminal Lineal Feet	0	0	0	0	_____
5a.	Enplaned	0	0	0	0	_____
5b.	Deplaned	0	0	0	0	_____
	Mass Transit					
6.	Bus (Hotel Shuttles)	Yes	Yes	Yes	Yes	_____
7.	Subway, Rail, Other	Subway	Subway	Subway	Subway	_____

Passenger Modal Split

8.	Automobile (Includes Rental Car)	61.84 %
9.	Taxi	8.14 %
10.	Bus (Includes Hotel Shuttles, Limos)	14.75 %
11.	Subway, Rail, Other	15.27 %

Percentage of People Entering Airport

12.	Passengers	_____ %
13.	Visitors, Well Wishers, Greeters	_____ %
14.	Employees	_____ %

Vehicle Count

15.	Number of Vehicles Per Passenger	_____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
	Terminal	(See Part 3)	1978	53000	1976

Terminal expansion program including baggage, ticketing, curb frontage, concourse and roadway.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Addison Code ADS

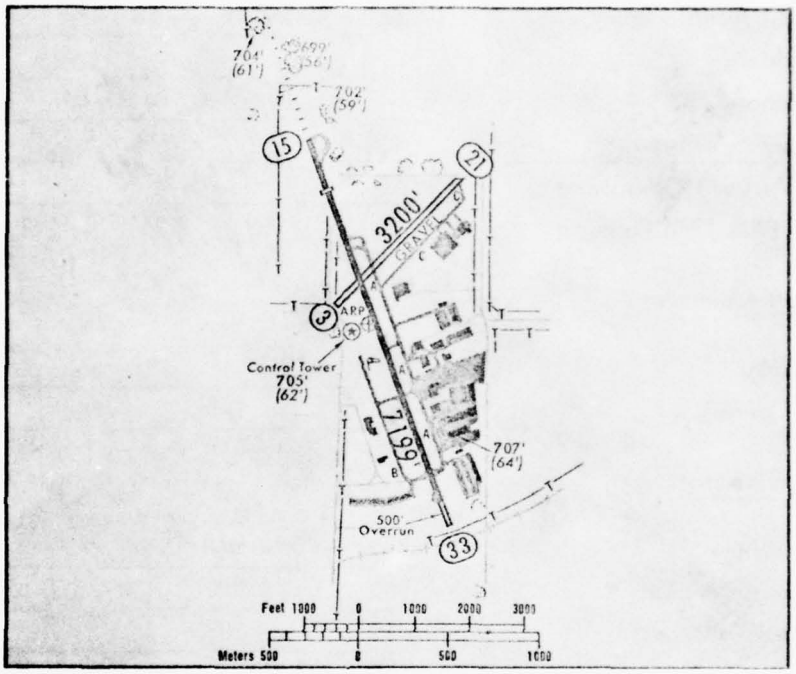
Hub Name Dallas/Ft. Worth Master Plan Status None

Approximate Distance and Direction to Hub CBD 8 Miles South

Approximate Distance and Direction to Hub Air Carrier Airport 10 Miles Southwest

Name of That Airport Dallas-Ft. Worth Number of Commuters 0

Approximate Number of Employees at Airport 500-600 as of 1975



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Addison is a small, privately owned airport which serves the North Dallas area. It is primarily a business airport with approximately 60 to 70 percent of the operations business or corporate related. It handles a wide variety of aircraft from light single engine to Air Force One which has been there for maintenance by Collins Radio. Over half the aircraft using ADS are multiengine. In 1974, Addison was 96th in total activity just ahead of Midway airport in Chicago.

There are no major plans for expansion at Addison, though additional hangars and ramps may be built in the near future. The airport manager feels the airport will reach saturation within the next 10 to 15 years.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1976	1977	1978	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.1				
1a.	Air Taxi	0.1				
2.	General Aviation	237				
2a.	Itinerant	128				
2b.	Local	109				
3.	Military Misc	0.8				
4.	Total Aircraft Operations	237.9				
5.	Total FAA 1974 Forecasts		239	250	261	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	462				
8a.	Single Engine	222				
8b.	Jets	19				
8c.	Seaplane	0				
9.	Rotary Wing	9				
10.	Total Based Aircraft	471				

ADS

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	3	3200	Same	-	VFR	Same	-
2.	21	3200	Same	-	VFR	Same	-
3.	15	7199	Same	-	VOR	ILS	1976
4.	33	7199	Same	-	VOR	Same	-
5.	-						
6.	-						
7.	-						
8.	-						
9.	-						
10.	-						

11. Heaviest Aircraft Capable of Using Primary Runway: B-707, DC-8

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	15
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	Yes			

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	240				
23.	Maximum Hourly Capacity (IFR)	36				
24.	Practical Annual Capacity (000)	284				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Parking Apron Area (000 sq ft)	324				
2. Hangar Area (000 sq ft)	140				
3. T-Hangar Parking Positions	218				
4. Conventional Hangars	10				
5. Terminal Building Area (sq ft)	7500				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	500				
2. Access Road Capacity (vehicles/hr)	(2 lanes 25-30 mph)				
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2	VASI-4		1980	16000	1973

Install VASI-4 system at airport.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Dallas Love Field Code DAL

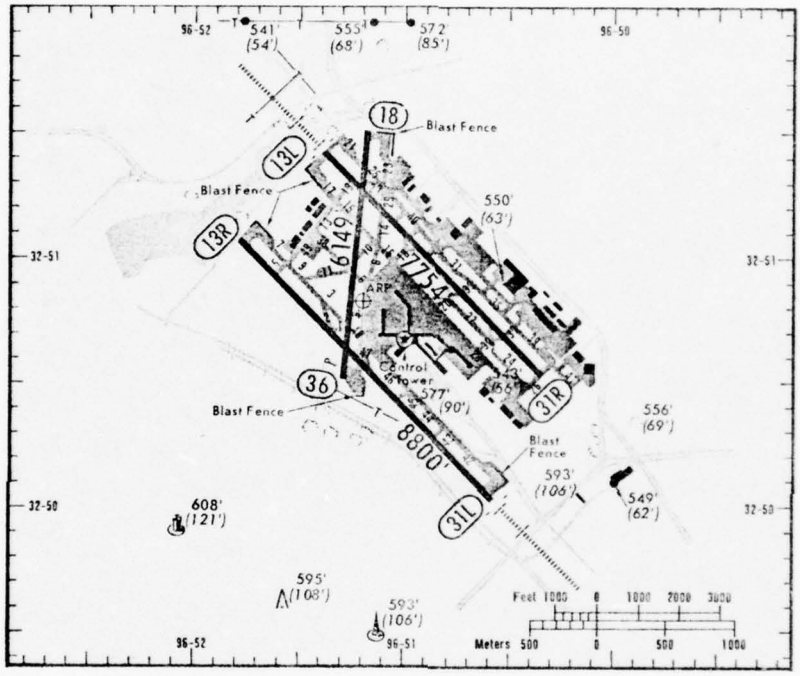
Hub Name Dallas/Ft. Worth Master Plan Status 1972

Approximate Distance and Direction to Hub CBD 5 Miles South

Approximate Distance and Direction to Hub Air Carrier Airport 17 Miles West

Name of That Airport Dallas/Ft. Worth Regional Number of Commuters 1

Approximate Number of Employees at Airport 4600 as of March 1975



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Love Field is the former air carrier airport for Dallas. For the last two years the air carriers have been using the new regional airport (DFW). Southwest Airlines still operates from Love Field to other Texas cities and enplanes over 600,000 passengers per year. Love Field was 10th in 1975 in general aviation itinerant operations. There is much business activity around Love Field, and much of the flying is done with corporately owned aircraft.

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Since ceasing air carrier operations, the space at Love Field has been redistributed. Available hangar space was quickly used by corporate fleets and private aircraft. The main lobby of terminal building is being used as an ice rink with a disco bar. The airport is financially sound with enough capital to cover all outstanding bonds and, in addition, the airport is still operating at a profit.

Activity at DAL is ahead of the 1972 "Future of Dallas Love Field" study. No expansion is planned although additional hangars may become necessary in the near future.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1976	1977	1978	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	37.9				
1a.	Air Taxi					
2.	General Aviation	119.9				
2a.	Itinerant	116.4				
2b.	Local	3.5				
3.	Military None	2.8				
4.	Total Aircraft Operations	160.6				
5.	Total FAA 1974 Forecasts		431	450	471	
	Aircraft Movements					
6.	Peak-Day	1050				
7.	Peak-Hour	144				
	Based Aircraft					
8.	Fixed Wing	152				
8a.	Single Engine	42				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	1				
10.	Total Based Aircraft	153				

DAL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	13R	8800	Same	-	LOC	Same	-
2.	31L	8800	Same	-	ILS	Same	-
3.	13L	7754	Same	-	ILS	Same	-
4.	31R	7754	Same	-	LOC	Same	-
5.	18	6149	Same	-	VOR	Same	-
6.	36	6149	Same	-	VOR	Same	-
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway B-747

11a. Class of This Aircraft: (AA) A B C D E

12. Fleet Mix (Percentage) 60 Class AA+A+B+C Class A ____ Class B ____ Class C 40 Class D+E ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	13L
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	Yes			

		Actual	Forecast			
	Year:	1974	1976	1977	1978	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	167				
23.	Maximum Hourly Capacity (IFR)	87				
24.	Practical Annual Capacity (000)	430				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1976	1977	1978	
1. Parking Apron Area (000 sq ft)	1620				
2. Hangar Area (000 sq ft)	700				
3. T-Hangar Parking Positions	10				
4. Conventional Hangars	17				
5. Terminal Building Area (sq ft)	320000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:					
1. Automobile Parking Spaces	4000				
2. Access Road Capacity (vehicles/hr)	(4 lanes 35-40 mph)				
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	Helicopter				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
	New VASI at airport		1980	24	1973

AIR CARRIER AIRPORT DATA LIST

Airport Name Dallas/Fort Worth Regional Code DFW

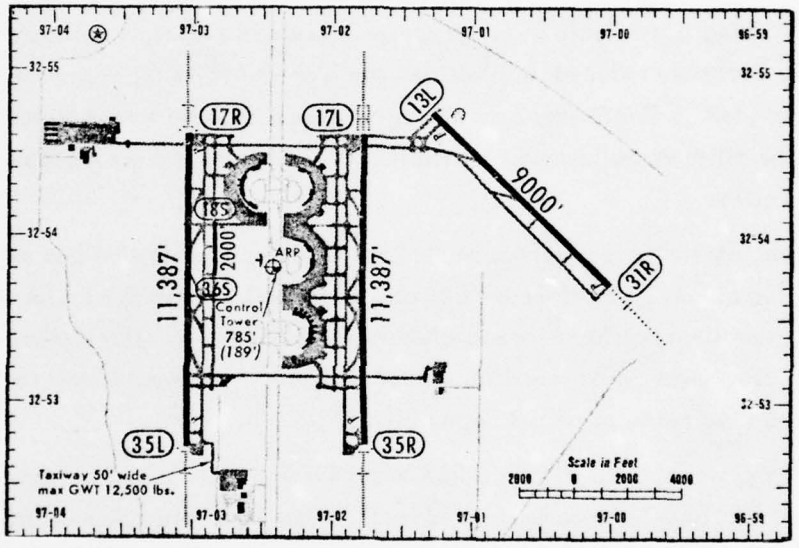
Hub Name Dallas/Fort Worth Master Plan Status 1967

Approximate Distance and Direction to Hub CBD (Dallas) 17 Miles East; (Fort Worth) 17 Miles West

Approximate Number of Employees at Airport 15,000 as of 1975

Number of Air Carriers 11 Commuters 5

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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Dallas/Fort Worth Airport was officially dedicated on September 22, 1973, and became operational on January 13, 1974. The airport has been designated as a separate postal zone with its own zip code, 75261. The 17,500 acres which comprise the airport's property were bought by the cities of Dallas and Fort Worth. Except for the cost of this land acquisition, the airport's self-liquidating revenue bonds will be

systematically retired by, and its operating costs will be funded by, income earned from landing fees, concession fees, rentals and other sources.

The mere size of DFW is impressive. However, the design is such that it is one of the easiest airports in the world to use. Key roadways throughout the "Metroplex" are dotted with easy-to-read markers that point the way to DFW. Once the traveler reaches the airport proper, access to all of the terminals and other facilities is by left turns off the International Parkway, the spine road that runs 7.5 miles through the center of the airport. When the specific terminal desired is reached, automated displays indicate the gate or area from which a particular flight will depart. Similar information is provided for incoming flights. Persons departing DFW use the terminal's lower level roadway, while arriving flights are met by use of the upper level roadway. Parking is available in either close-in areas immediately adjacent to each terminal, or in remote reduced rate lots that are a short AIRTRANS ride away. Public transit is provided by SURTRAN, a system of motor coaches and taxis created for the airport by the cities of Dallas and Fort Worth. All elevators are equipped with information in braille.

The air traffic control system at DFW received a prolonged and extensive test during the airport's first three days of operations when it was put in use during one of the worst sieges of fog ever experienced in North Texas. The system allowed landings at DFW when similar conditions at Dallas Love Field would have required aircraft to be diverted to airports in other cities.

DFW was opened with five instrument landing systems (ILS) – the largest number of such systems ever commissioned by the Federal Aviation Administration simultaneously with the opening of a new airport. Aircraft movements now average approximately 1,000 per day. Dallas/Fort Worth Airport contains innovative concepts and design features which attracted international interest. The entire airport was planned to its ultimate configuration before design and construction on the initial phase was ever begun. It is designed along modular concepts so that additions may be made in the future - both through extensions to existing half-loop terminals and construction of entirely new terminals and other facilities - while existing airport structures and services will continue to operate normally without interruption.

The intra-airport, automatic transportation system at DFW is AIRTRANS. It is a unique system developed for passengers, employees and visitors to move from place to place within the airport without an automobile. For airline passengers, AIRTRANS solves two problems - those of passengers who come in on one airline and leave on another and those who leave from one terminal and return to another while their automobile remains at the first terminal. The AIRTRANS system is made up of a large number of computer-controlled passenger and utility units. AIRTRANS utility vehicles are designed to move baggage, mail, supplies and trash.

Airports traditionally have required greater amounts of land for growth than originally expected. With more than 17,500 acres of land located midway between Dallas and Fort Worth, DFW was designed from inception to include sufficient land mass to allow for planned expansion through the ultimate design of the airport. The great land mass of DFW, which is larger than the island of Manhattan, allows for more consideration of environmental factors than would be possible with restricted land availability. The ultimate capacity of the airport is the number of aircraft which can be handled in the surrounding airspace.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1975	1980	1985	1990
	Enplaned Passengers (000)					
1.	Air Carrier	7030	7200	11497	15929	20719
2.	Commuter (Including Air Taxi)	81	141	234	325	422
2a.	Air Taxi	0	0	0	0	0
3.	Connecting	3769	3891	5983	8450	11205
4.	Originating	3342	3450	5748	7804	9936
5.	Domestic	6968	7184	11144	15116	19027
6.	International	143+	157	587	1138	2114
7.	Total Enplaned Passengers	7111	7341	11731	16254	21141
8.	Total FAA 1974 Forecasts					
	Aircraft Operations (000)					
9.	Air Carrier		284	329	382	442
10.	Commuter (Including Air Taxi)		46	54	62	72
10a.	Air Taxi		0	0	0	0
11.	General Aviation		14	16	19	22
11a.	Itinerant		14	16	19	22
11b.	Local		0	0	0	0
12.	Military		1	1	1	1
13.	Total Aircraft Operations		345	400	464	537
14.	Total FAA 1974 Forecasts					
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)		7000	7800	9100	11400
16.	Aircraft		90	100	117	147
	Cargo					
17.	Total Enplaned Cargo (000 Tons)		174	313	519	1133

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	13L	9000			ILS-I
2.	31R	9000	11000	1990	ILS-I
3.	17R	11387	13375	1990	ILS-I
4.	35L	11387	13375	1990	ILS-I
5.	17L	11387	13375	1990	ILS-II
6.	35R	11387	13375	1990	ILS-II
7.	18S	2000	Same	-	DAY VFR
8.	36S	2000	Same	-	DAY VFR
9.	18L	None	13375	1990	-
10.	36R	None	13375	1990	-
11.	13R	None	11000	1990	-
12.	31R	None	11000	1990	-
13.	16/34	None	5000	1990	-
14.	15S/34S and 13S/31S	None	2000	1990	-

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

		Actual	Forecast			
	Year:	1974				1990
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	153				266
17.	Maximum Hourly Capacity (IFR)	117				178
18.	Minimum Hourly Capacity (IFR)	117				178
19.	Practical Annual Capacity (000)	557				1065

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1975	1980	1985	1990
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	68	68	94	113	130
1a. International Terminal	2	2	4	10	18
2. Wide Body Parking Positions	68	68	94	113	130
2a. International Terminal	2	2	4	10	18
3. Gates (Passenger Exits)	68	68	94	113	130
3a. International Terminal	2	2	4	10	18
Ticket Counters					
4. Linear Feet	1000 (Estimate)				
4a. International Terminal	0				
5. Stations	100 (Estimate)				
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)					
6a. International Terminal	0				
7. Equipment Types	30 carousels (includes 4 of double normal 30' size)				
8. Equipment Capacity (bags/min)	1800				
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers	62				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	62				
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1974	1975	1980	1985	1990
	Terminal Area (000 sq ft)					
12.	Total Area	1400	1400	2000	2500	3000
12a.	International Terminal	50	50	100	200	500
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	10000				30000
14.	Annual (000)	14000				30000
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	386.2	386.2			
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions	15	15	25	50	100
18.	Truck Loading Docks					
19.	Cargo Loading Type ____ Manual ____ Semi-Automatic X Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	(Included as part of main terminal-gate 1)				
21.	Apron Area (000 sq ft)	-				
22.	Hangar Area (sq ft)	-				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	24%				
24.	Percentage of Passengers Who Use Curb Only	32%				
25.	Average Length of Stay of Car in Parking Lot	3-4 hrs.				
26.	Number of Checked Bags per Passenger	2				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1974	1975	1980	1985	1990
	Automobile Parking Spaces					
1.	Total Public	8400	8400	11200	14800	19400
1a.	Short Term	6400	6400	8000	10800	14400
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	7200				12000
	Curb Frontage					
4.	Lineal Feet	19500				78000
4a.	Enplaned	9750				39000
4b.	Deplaned	9750				39000
5.	International Terminal Lineal Feet					
5a.	Enplaned					
5b.	Deplaned					
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No			

Passenger Modal Split

8.	Automobile (Includes Rental Car)	80 %
9.	Taxi	1 %
10.	Bus (Includes Hotel Shuttles, Limos)	19 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	50 %
13.	Visitors, Well Wishers, Greeters	25 %
14.	Employees	25 %

Vehicle Count

15.	Number of Vehicles Per Passenger	.4 (Excludes employee vehicles which use separate entry)

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/	Runway		As Needed		1975
Runway costs estimated as $1 million per 1000 feet of runway.					
2/	Taxiway		As Needed		1975
Taxiway costs estimated as $500K per 1000 feet.					
3/	Terminal	1 Semi-circle		70000	1975
One complete terminal (half circle) including adjacent roadway and apron.					
4/	Roadway	1200 veh/hr/lane		1000/mi	1975
Roadway cost for 3 lanes each direction (6 lanes total) estimated at $1 million per mile.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Meacham Field (Ft. Worth) Code FTW

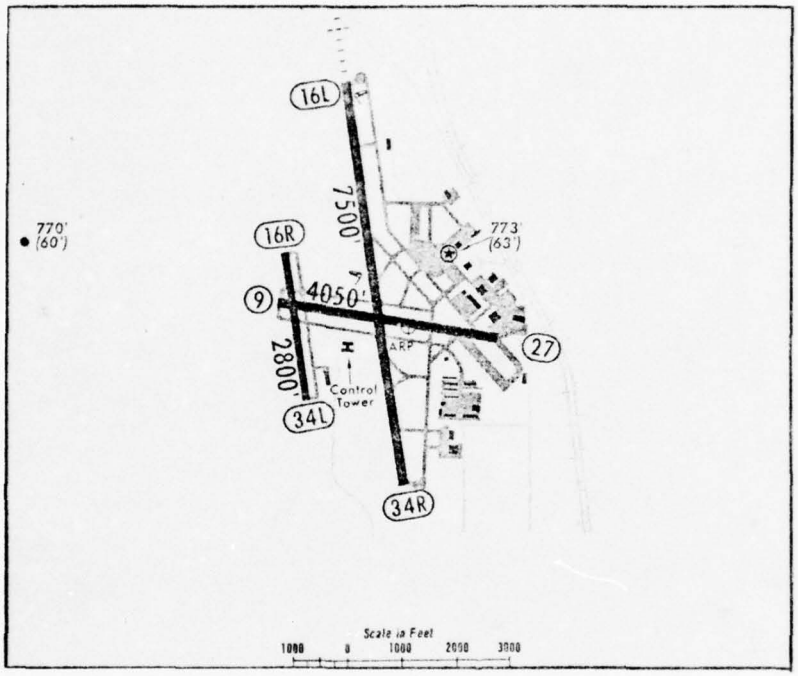
Hub Name Dallas/Ft. Worth Master Plan Status None

Approximate Distance and Direction to Hub CBD 5 Miles North

Approximate Distance and Direction to Hub Air Carrier Airport 25 Miles East

Name of That Airport Dallas - Ft. Worth (DFW) Number of Commuters 0

Approximate Number of Employees at Airport 500-600 as of 1975



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Meacham Field is second only to the Dallas - Ft. Worth Regional Airport (DFW) in the annual number of aircraft operations in the state of Texas. This is somewhat misleading, however, since about two thirds of the operations are local (touch and go). There is no commuter service to FTW at present. There is some litigation at Love Field (DAL) over the operations of Southwest at DAL (rather them at DFW). If Southwest is allowed to continue operating at DAL, then according to the airport manager at Meacham it is likely that commuters would start operating at FTW as well.

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Various airfield improvements have been made recently. The terminal building is fairly new (1968). No major expansion is planned except for the possible addition of a new taxiway and more hangars; also the apron adjacent to the terminal may be expanded.

The primary sources of information are discussions with the airport manager and the North Central Texas Airport System Plan of March 1975.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1976	1977	1978	____
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	10	____	____	____	____
1a.	Air Taxi	10	____	____	____	____
2.	General Aviation	300	____	____	____	____
2a.	Itinerant	159	____	____	____	____
2b.	Local	141	____	____	____	____
3.	Military Misc	5	____	____	____	____
4.	Total Aircraft Operations	315	____	____	____	____
5.	Total FAA 1974 Forecasts		312	326	341	____
	Aircraft Movements					
6.	Peak-Day	____	____	____	____	____
7.	Peak-Hour	____	____	____	____	____
	Based Aircraft					
8.	Fixed Wing	222	____	____	____	____
8a.	Single Engine	125	____	____	____	____
8b.	Jets	9	____	____	____	____
8c.	Seaplane	0	____	____	____	____
9.	Rotary Wing	0	____	____	____	____
10.	Total Based Aircraft	222	____	____	____	____

FTW

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9	4050	Same	-	VFR	Same	-
2.	27	4050	Same	-	VFR	Same	-
3.	16R	2800	Same	-	VFR	Same	-
4.	34L	2800	Same	-	VFR	Same	-
5.	16L	7500	Same	-	ILS	Same	-
6.	34R	7500	Same	-	LOC	Same	-
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-707

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D&E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	16L/34R
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

		Actual	Forecast			
	Year:	1975	1976	1977	1978	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	198	No changes planned through 1990.			
23.	Maximum Hourly Capacity (IFR)	60				
24.	Practical Annual Capacity (000)	336				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1976	1977	1978	
1. Parking Apron Area (000 sq ft)	480				
2. Hangar Area (000 sq ft)	348				
3. T-Hangar Parking Positions	180	180	184		
4. Conventional Hangars	23				
5. Terminal Building Area (sq ft)	30,000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1976	1977	1978	
1. Automobile Parking Spaces	114				
2. Access Road Capacity (vehicles/hr)	(4 lanes, 55 mph)				
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

FTW

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/3/3	Hangar	4 T-hangars	1977		
Part 2	Taxiways, Aprons		Next few years		

FTW

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Redbird Code RBD

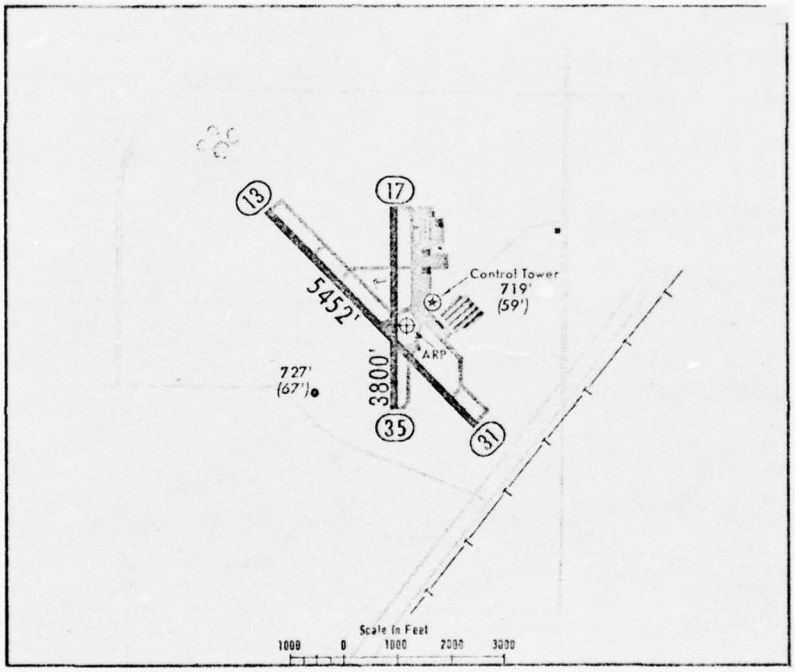
Hub Name Dallas/Fort Worth Master Plan Status Updated in 1976

Approximate Distance and Direction to Hub CBD 7 Miles North

Approximate Distance and Direction to Hub Air Carrier Airport 6 Miles Northwest

Name of That Airport Dallas Fort Worth Number of Commuters 0

Approximate Number of Employees at Airport 300-500 as of 1975



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Redbird is a city-owned airport serving South Dallas. Training activity is greater here than at Love Field or Addison. Although more projects are being planned here rather than at Love Field, it is because Love Field is already developed.

PART I. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1976	1977	1978	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	1.0				
1a.	Air Taxi	1.0				
2.	General Aviation	205.0				
2a.	Itinerant	85.0				
2b.	Local	120.0				
3.	Military Nat'l Guard	1.0				
4.	Total Aircraft Operations	207.0				
5.	Total FAA 1974 Forecasts		196	205	214	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	201				
8a.	Single Engine	142				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	201				

RBD

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	13	5452	Same	-	LOC		-
2.	31	5452	Same	-	ILS		-
3.	17	3800	Same	-	VOR		-
4.	35	3800	Same	-	NDB		-
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B
5 Class C 95 Class D/E - Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	5:45-22:30	19.	Automatic Terminal Information Service (ATIS)	
15.	Flight Service Station	No	20.	Primary Instrument Runway	31
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	220				
23.	Maximum Hourly Capacity (IFR)	36				
24.	Practical Annual Capacity (000)	275				

RBD

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1980			
1. Parking Apron Area (000 sq ft)	194.4	514.8			
2. Hangar Area (000 sq ft)	118.0				
3. T-Hangar Parking Positions	60	75			
4. Conventional Hangars	6				
5. Terminal Building Area (sq ft)	7500				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1980			
1. Automobile Parking Spaces	171	275			
2. Access Road Capacity (vehicles/hr)	(2 lanes)				
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

RBD

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/1/2	Apron	35600 sq yds	1980	213.6	1973
Pave additional parking apron.					
2/	Navaids		1980	103.0	1973
Miscellaneous Navaids installed.					
3/3/2	T-hangars	15	1980	52.5	1973
Construct 15 T-hangars by 1980.					
4/1/2	Auto Parking	100 (est)	1980	11.6	1973
Pave additional 3850 sq yds of auto parking.					

RBD

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Arapahoe County Code APA

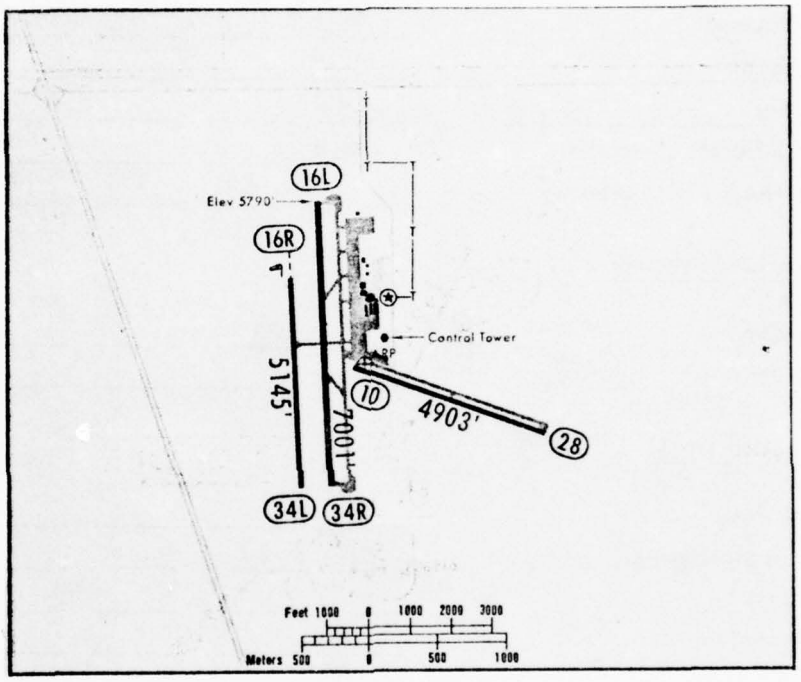
Hub Name Denver Master Plan Status None

Approximate Distance and Direction to Hub CBD 15 Miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 15 Miles North

Name of That Airport Stapleton International Number of Commuters 0

Approximate Number of Employees at Airport 100 as of 1975



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Arapahoe County Airport, located about 15 miles Southeast of Denver, has been a major general aviation reliever airport for Stapleton (together with Jeffco). With the completion of a new parallel runway 16R/34L expansion of Arapahoe is essentially finished for the near future, aside from landing aid improvements.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi					
2.	General Aviation	218.5				
2a.	Itinerant	69.1				
2b.	Local	149.4				
3.	Military	0.3				
4.	Total Aircraft Operations	218.8				
5.	Total FAA 1974 Forecasts		123	133	145	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	291				
8a.	Single Engine	252				
8b.	Jets					
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	291				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	16L	7001			VFR		
2.	34R	7001			VFR	ILS	1975
3.	10	4903			NDB		
4.	28	4903			VFR		
5.	16R	7000			VFR		
6.	34L	7000			VFR		
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B 0 Class C 30 Class D 70 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	10
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	244				
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	325				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	1600				
2. Hangar Area (000 sq ft)	10				
3. T-Hangar Parking Positions	45				
4. Conventional Hangars	1				
5. Terminal Building Area (sq ft)	12500				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	200				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	No				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/various/-	Airside			1,618	1975

Strengthen 16L/34R and 10/28; MIRL 16R/34L and 16L/34R; VASI 16R/34L; REIL 10, 28, 16L, 34R.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Jeffco Code BJC

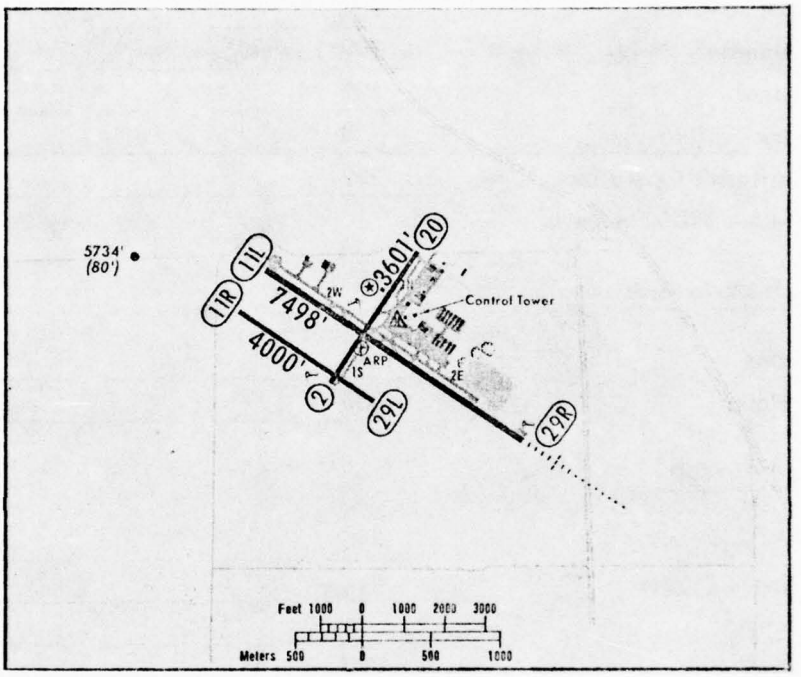
Hub Name Denver Master Plan Status None

Approximate Distance and Direction to Hub CBD 10 Miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 15 Miles Southeast

Name of That Airport Stapleton International Number of Commuters 0

Approximate Number of Employees at Airport 250 as of 1975



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Jeffco Airport, located about 10 miles Northwest of Denver, has been a major GA reliever airport for Stapleton (together with Arapahoe). With the extension and the ALS installed at the end of 29R, CAT I operation began in August 1974. No new major expansion is envisioned for the near future, as sufficient airside capacity exists to meet demand. Ground facilities - basically hangars - will be added as demand grows.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi	0				
2.	General Aviation	236				
2a.	Itinerant	109				
2b.	Local	127				
3.	Military (Navy)	3				
4.	Total Aircraft Operations	239				
5.	Total FAA 1974 Forecasts		306	432	600	
	Aircraft Movements					
6.	Peak-Day	1700				
7.	Peak-Hour	250				
	Based Aircraft					
8.	Fixed Wing	345				
8a.	Single Engine	315				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	5				
10.	Total Based Aircraft	350				

BJC

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways

	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	2	3601			VFR		
2.	20	3601			VFR		
3.	11L	7498			VFR		
4.	29R	7498			ILS		
5.	11R	4000	5000	1980	VFR		
6.	29L	4000	5000	1980	VFR		
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway 11L/29R - Electra

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B
0 Class C 30 Class D 70 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	6 a.m.-10 p.m.	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	29R
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1975	1980			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	178	178			
23.	Maximum Hourly Capacity (IFR)	15	15			
24.	Practical Annual Capacity (000)	351	351			

BJC

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1980			
1. Parking Apron Area (000 sq ft)	768	875			
2. Hangar Area (000 sq ft)	126	189			
3. T-Hangar Parking Positions	113	143			
4. Conventional Hangars	5	7			
5. Terminal Building Area (sq ft)	3200	3200			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1980			
1. Automobile Parking Spaces	300	300			
2. Access Road Capacity (vehicles/hr)	100	100			
3. Rental Car Service	Yes	Yes			
4. Bus Access	No	Yes			
5. Rail, Subway, Other Access	No	No			

BJC

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/5,6/3	Runway	1000 ft	1980	300	1975

Extend runway 11R/29L.

BJC

AIR CARRIER AIRPORT DATA LIST

Airport Name Stapleton International Code DEN

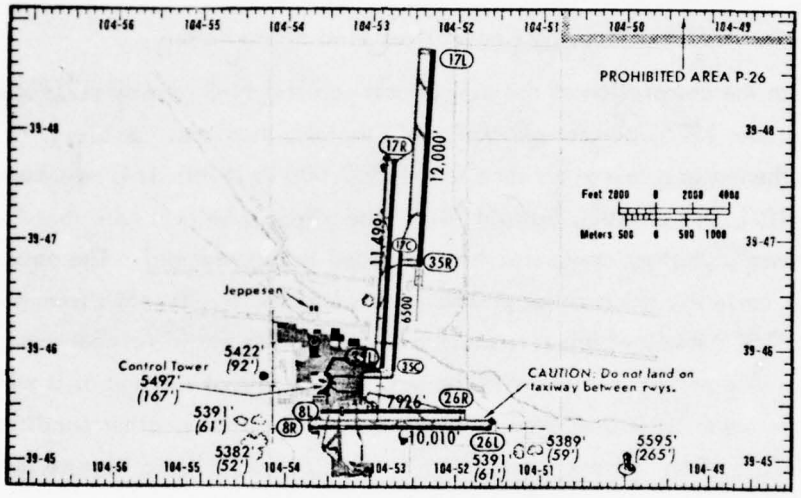
Hub Name Denver Master Plan Status Underway (1976)

Approximate Distance and Direction to Hub CBD 6 miles West

Approximate Number of Employees at Airport 6,200 as of 1975

Number of Air Carriers 10 Commuters 5

Terminal Type: X Linear X Pier ____ Satellite ____ Transporter



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Stapleton International Airport is the tenth busiest airport in the United States and serves as the air transport center of the Rocky Mountain Region. About 20% of the enplaned passengers are connecting. It is the highest major airport in the country (5,330 feet) and is readily accessible to downtown Denver.

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All enplaning and deplaning operations at Stapleton are concentrated in one central terminal, which has been in a constant process of expansion to now. The terminal itself encompasses 670,000 sq. ft, while four concourses enclose another 360,000 sq. ft.

Adjoining the airport on the north is the Rocky Mountain Arsenal, a large Federal preserve of about 15,000 acres, on which there are no private homes. The area of the airport itself encompasses 4,600 acres. The area at the east of Stapleton is sparsely populated. Under the preferential runway use system in effect at Stapleton, 85% of the landings are from the east and 90% of the takeoffs are to the north.

Approximately 400 general aviation aircraft are based on the field, mostly for business use. Beechcraft, Piper and Lear Jet have FBO operations at Stapleton. United, Frontier and Continental have large hangars housing their operations and maintenance facilities. United's Flight Training Center is located at Stapleton.

With the completion of the new almost parallel N-S runway (17L/35R) as of the end of October 1975, current expansion of Stapleton is almost complete. 17R/35L will be strengthened in a few years time to a 1,500,000 lb level; it is now capable of handling DC-10/L1011 aircraft, but not 747s. The airport planners note that "when demand increases", another concourse may be added to the terminal. The noise problem at Stapleton is currently not a major problem and with landings/takeoffs from the new displaced 17L/35R runway which extends into the Rocky Mountain Arsenal area, should improve more. A possible problem with the new runway is that the end of it will not be visible from the tower (it is over 3 miles away) during marginal weather conditions. The long planned Cargo City has been cancelled because of public opposition to road traffic.

A master plan study is currently underway at Denver for Stapleton by R. Dixon Speas which will be completed during the summer of 1976. The last master plan for Stapleton was done by Landrum & Brown in 1967 and consequently the demand forecasts and planning information normally available for the major airport in a large hub are out of date and will not be available until the new master plan is completed.

PART 1. DEMAND FORECASTS

	Actual Year: 1974	1980	1985	1990	
Enplaned Passengers (000)					
1. Air Carrier					
2. Commuter (Including Air Taxi)					
2a. Air Taxi					
3. Connecting	1150				
4. Originating	4110	5509			
5. Domestic	5350				
6. International					
7. Total Enplaned Passengers	5751	7870			
8. Total FAA 1974 Forecasts		7150	8915	10515	
Aircraft Operations (000)					
9. Air Carrier	198				
10. Commuter (Including Air Taxi)	18				
10a. Air Taxi					
11. General Aviation	184				
11a. Itinerant	144				
11b. Local	40				
12. Military Army Reserve	1				
13. Total Aircraft Operations	401				
14. Total FAA 1974 Forecasts		402	413	423	
Peak Hour Movements					
15. Passengers (Enplaned and Deplaned)					
16. Aircraft	58				
Cargo					
17. Total Enplaned Cargo (000 Tons)	98				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	17R	11499	Same	-	ILS-I
2.	35L	11499	Same	-	ILS-I
3.	17L	12000	Same	-	ILS-I
4.	35R	12000	Same	-	ILS-IIIa
5.	8R	10010	Same	-	ILS-I
6.	26L	10010	Same	-	ILS-I
7.	8L	6697	Same	-	VFR
8.	26R	7926	Same	-	NDB
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 10 Class AA + A, 35 Class B, 2 Class C, 20 Class D, 33 Class E

	Year:	Actual 1974	1980			
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	180	180			
17.	Maximum Hourly Capacity (IFR)	80	80			
18.	Minimum Hourly Capacity (IFR)	38	38			
19.	Practical Annual Capacity (000)	500	500			

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year:	1975	1980			
Passenger Terminal(s)						
Gates						
1. Aircraft Parking Positions		65	65			
1a. International Terminal		0	0			
2. Wide Body Parking Positions		17	17			
2a. International Terminal		0	0			
3. Gates (Passenger Exits)		68	68			
3a. International Terminal		0	0			
Ticket Counters						
4. Linear Feet		650	650			
4a. International Terminal		0	0			
5. Stations		131	131			
5a. International Terminal		0	0			
Baggage Claim						
6. Public Area (sq ft)		45000	45000			
6a. International Terminal		0	0			
7. Equipment Types		6-30' carousels				
8. Equipment Capacity (bags/min)		360	360			
8a. International Terminal		0	0			
Security Inspection						
9. Parallel Passenger Servers		12	12			
9a. International Terminal		0	0			
10. Manual (Carry On Baggage)		0	0			
10a. International Terminal		0	0			
11. X-ray (Carry On Baggage)		12	12			
11a. International Terminal		0	0			

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1975	1980			
	Terminal Area (000 sq ft)					
12.	Total Area	1000	1000			
12a.	International Terminal	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	4000				
14.	Annual (000)	22000				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	28.0	28.0			
16.	Apron Area (000 sq ft)	211.5	211.5			
17.	Aircraft Parking Positions	1	1			
18.	Truck Loading Docks					
19.	Cargo Loading Type ____ Manual	____ Semi-Automatic		____ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0	0			
21.	Apron Area (000 sq ft)	1217.9	1217.9			
22.	Hangar Area (sq ft)	0	0			
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual Year: 1975	1980			
	Automobile Parking Spaces					
1.	Total Public	4799	5399			
1a.	Short Term	0				
2.	Rental Car	300	300			
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2400	2400			
	Curb Frontage					
4.	Lineal Feet	1826	1826			
4a.	Enplaned	806	806			
4b.	Deplaned	1020	1020			
5.	International Terminal Lineal Feet	-	-			
5a.	Enplaned	-	-			
5b.	Deplaned	-	-			
	Mass Transit					
6.	Bus	Yes	Yes			
7.	Subway, Rail, Other	No	No			
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	79 %				
9.	Taxi	15 %				
10.	Bus (Includes Hotel Shuttles, Limos)	4 %				
11.	Subway, Rail, Other	2 %				
	Percentage of People Entering Airport					
12.	Passengers	41 %				
13.	Visitors, Well Wishers, Greeters	41 %				
14.	Employees	18 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	1.11				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
4/1/2	Auto Parking	600 spaces	1976	3,700	1975

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Detroit City Code DET

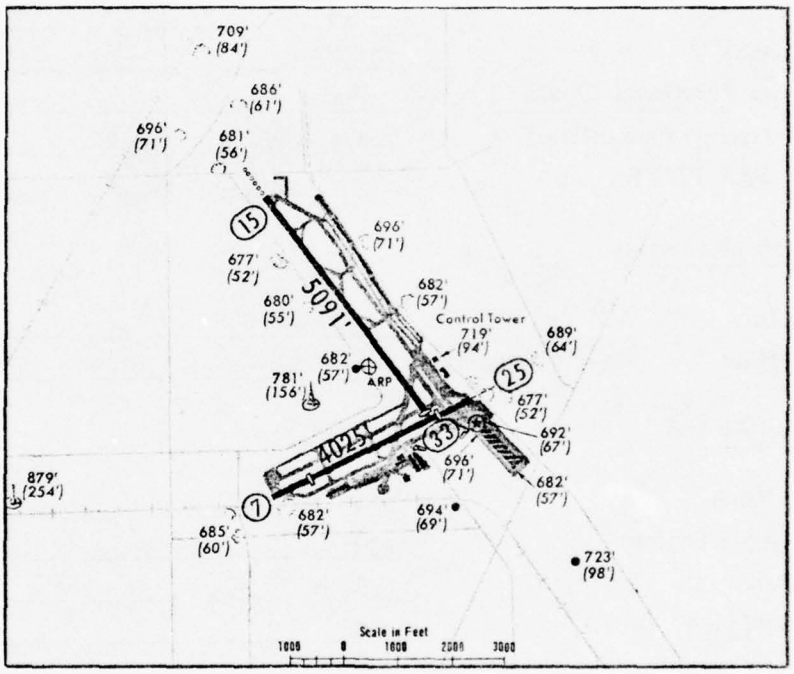
Hub Name Detroit Master Plan Status 1969 - Draft

Approximate Distance and Direction to Hub CBD 5 miles West

Approximate Distance and Direction to Hub Air Carrier Airport 25 miles West

Name of That Airport Detroit Metropolitan Wayne Co. Number of Commuters 3

Approximate Number of Employees at Airport 250 as of 1976



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Detroit City Airport is the third busiest airport in terms of operations in the state of Michigan despite a drop of over 10% in the past year. The airport manager anticipates beginning a Master Planning study within the year, but at the present time the most current study is a November 1969 Master Plan Interim Report. However, both the level of activity and facilities have not changed significantly since then, thus most of the data is accurate. Since a Master Plan study is anticipated, there will be no development at the airport until this is completed.

PART I. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1968	1974	1975		
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	28.9				
1a.	Air Taxi					
2.	General Aviation	235.1				
2a.	Itinerant	133.4				
2b.	Local	101.7				
3.	Military National Guard	0.4				
4.	Total Aircraft Operations	264.4	207.1	184.8		
5.	Total FAA 1974 Forecasts		210.0	227.0		
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour	174				
	Based Aircraft					
8.	Fixed Wing	310				
8a.	Single Engine	200				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	310				

DET

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways

	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	7	3295	Same	--	VFR	Same	--
2.	25	3295	Same	--	VFR	Same	--
3.	15	5091	Same	--	LOC	Same	--
4.	33	4851	Same	--	ILS	Same	--
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: Gulfstream 2

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D + E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	33
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

		Actual		Forecast		
	Year:	1968	1976			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	100	100			
23.	Maximum Hourly Capacity (IFR)	51	51			
24.	Practical Annual Capacity (000)					

DET

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	405				
2. Hangar Area (000 sq ft)	168				
3. T-Hangar Parking Positions	136				
4. Conventional Hangars	2				
5. Terminal Building Area (sq ft)	30370				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	331				
2. Access Road Capacity (vehicles/hr)	4 lanes (2 each dir.) 35-40 mph				
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

None Planned

AIR CARRIER AIRPORT DATA LIST

Airport Name Detroit Metropolitan Wayne County Code DTW

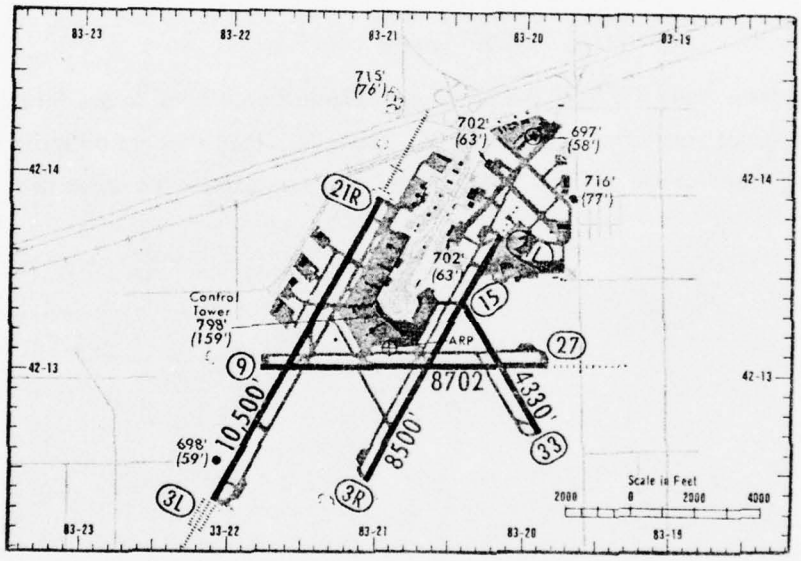
Hub Name Detroit Master Plan Status None

Approximate Distance and Direction to Hub CBD 15 miles East

Approximate Number of Employees at Airport 7000 as of 1971

Number of Air Carriers 9 Commuters 0

Terminal Type: X Linear X Pier ____ Satellite ____ Transporter



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A comprehensive terminal master plan and roadway study for the Detroit "Metro" airport was compiled in 1972; a new study is expected to be started soon. The terminal plan recommended development of a South complex separate from the present terminal area. A monorail type people shuttle was proposed to link the two terminal areas,

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parking lots and eventually the Detroit Central Business District. These plans have been shelved indefinitely due to the unexpected lack of air traffic growth. However, these plans will be implemented "when demand exists." Much of the future terminal and roadway capacities are taken from this report. They should be considered as forecasts, not firm plans; the completion dates are expected to slip a few years.

DTW is constructing a new parallel runway 10,000 ft long. Five other runways are planned to be built or extended for the ultimate airport layout, but dates and costs for these are not known. These runway improvements which are in the ultimate development plan for the airport, but for which there are no fixed dates or cost figures include:

9L lengthened by 650'
3L lengthened by 2000'
21L (under construction) lengthened to 11500'
9C (new) 10,000' length
9R (new) 10,200' length

Figures beyond 1975 for the passenger terminal and landside are forecasted requirements and not committed improvements. However, they do give an indication of the changes expected at the airport. The airport planners expect the dates to slip by a few years.

PART 1. DEMAND FORECASTS

		Actual	Actual	Forecast		
	Year:	1972	1975	1980	1985	1990
	Enplaned Passengers (000)					
1.	Air Carrier					
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	3401.6	3657.7	8500.0	12000.0	16200.0
6.	International	94.3	71.9	300.0	500.0	800.0
7.	Total Enplaned Passengers	3495.9	3729.6	8800.0	12500.0	17000.0
8.	Total FAA 1974 Forecasts		4300.0	5601.0	7022.0	
	Aircraft Operations (000)					
9.	Air Carrier	193.7	160.9	285.0	330.0	380.0
10.	Commuter (Including Air Taxi)	0	0	0	0	0
10a.	Air Taxi	0	0	0	0	0
11.	General Aviation	78.1	73.2	71.0	66.0	61.0
11a.	Itinerant	74.7	72.2	70.0	65.0	60.0
11b.	Local	3.4	1.0	1.0	1.0	1.0
12.	Military National Guard	6.2	1.0	1.0	1.0	1.0
13.	Total Aircraft Operations	278.0	235.1	357.0	397.0	442.0
14.	Total FAA 1974 Forecasts		275.0	326.0	338.0	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	2600	4000	6000	8000	10000
16.	Aircraft	74	85	100	110	120
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	90.5	122.0 (1974)	420.0	830.0	1500.0

DTW

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	3R	8500	Same*	--	VOR
2.	21L	8500	Same*	--	NDB
3.	3L	10500	Same*	--	ILS-II
4.	21R	10500	Same*	--	ILS-I
5.	9	8702	Same*	--	VOR
6.	27	8702	Same*	--	ILS-I
7.	3R	None	10,000	1977	
8.	21L	None	10,000	1977	
9.	15	3500	Same*		VFR
10.	33	4330	Same*		VFR
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 11 Class AA 18 Class A 31 Class B 15 Class C 25 Class D/E Class E

		Actual		Forecast		
	Year:	1972	1977	1980		1990
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	91	97	155		162
17.	Maximum Hourly Capacity (IFR)	54	90	95		108
18.	Minimum Hourly Capacity (IFR)	37	37	37		
19.	Practical Annual Capacity (000)	341	361	354		375

* New runways and extensions are indicated on the airport layout sheet, but plans have not been made.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1975	1980	1985	1990
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	49	57	72	87	102
1a. International Terminal	6	6	6	6	6
2. Wide Body Parking Positions	18	18			
2a. International Terminal	3	3	3	3	3
3. Gates (Passenger Exits)	49	57	72	87	102
3a. International Terminal	6	6	6	6	6
Ticket Counters					
4. Linear Feet	790	1100	1500	1800	2000
4a. International Terminal		275	275	275	
5. Stations	108	108	108	108	
5a. International Terminal	28	28	28	28	28
Baggage Claim					
6. Public Area (sq ft)	7360	27500	38000	43000	55000
6a. International Terminal		7950	7950	7950	
7. Equipment Types	8 conveyor belts, 2 carousels				
8. Equipment Capacity (bags/min)	960				
8a. International Terminal	60	60	60	60	60
Security Inspection					
9. Parallel Passenger Servers	9	9			
9a. International Terminal	3	3			
10. Manual (Carry On Baggage)	3	3			
10a. International Terminal	3	3			
11. X-ray (Carry On Baggage)	6	6			
11a. International Terminal	0	0			

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1972	1975	1980	1985	1990
	Terminal Area (000 sq ft)					
12.	Total Area	700	960	1460	1640	2170
12a.	International Terminal	60	60	60	60	60
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour					
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	236	330	660	920	1220
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions	10	12	19	28	40
18.	Truck Loading Docks					
19.	Cargo Loading Type ___ Manual	X Semi-Automatic	___ Fully Automatic			
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	7000				
21.	Apron Area (000 sq ft)	61				
22.	Hangar Area (sq ft)	6 a/c positions				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot	1 hr, 20 min				
26.	Number of Checked Bags per Passenger					

DTW

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1972	1975	1980	1985	1990
	Automobile Parking Spaces					
1.	Total Public	7271	8000	13000	19000	25000
1a.	*Short Term*	455	496			
2.	Rental Car	2280	2300	3500	4800	5100
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	1648	2500	3800	5100	6600
	Curb Frontage					
4.	Lineal Feet	1060	1620	2500	3300	4200
4a.	Enplaned	630	960	1400	1800	2300
4b.	Deplaned	430	660	1100	1500	1900
5.	International Terminal Lineal Feet	300	300	300	300	300
5a.	Enplaned	150	150	150	150	150
5b.	Deplaned	150	150	150	150	150
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	No	No	Rail

Passenger Modal Split

8.	Automobile (Includes Rental Car)	92.2 %
9.	Taxi	1.6 %
10.	Bus (Includes Hotel Shuttles, Limos)	6.2 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	51 %
13.	Visitors, Well Wishers, Greeters	38 %
14.	Employees	11 %

Vehicle Count

15. Number of Vehicles Per Passenger 1.69 (1970-71); 1.65 (1975); 1.60 (1980)

DTW

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7,8/3	Runway	10000 ft	1977	28000	1975
Runway and taxiway for 3R/21L to be completed in 1977.					
	Airfield		1980	130000	1973
Includes new 3R/21L (above), new E-W runway, axial freeway, reconstruction of existing runways 3C/21C and 9L/27R including aprons and taxiways. Breakdown not available.					
3/12/3	Terminal	500000 sq. ft	1980	25000	1971
Passenger terminal expansion planned.					
	People Mover			21000	1975
People mover system in airport is being considered.					
3/12/4	Terminal	180000 sq. ft	1985	9000	1971
3/12/5	Terminal	530000 sq. ft	1990	26500	1971
1973 terminal cost estimates for proposed South Terminal; 67 MIL-1980, 99 MIL-1990 (furthe breakdown not available).					
4/1/3	Parking	12000 spaces	1980	7200	1971
Parking expansion includes employee, passenger, rental car parking.					
4/4/5	Roadway	5000 veh/hr	1990	40000	1973
Improvements to internal roadway system.					
4/1/4	Parking	1100000 sq. ft	1985	6600	1971
Parking improvements estimated at about 6000 spaces, passenger plus employee and rental car spaces.					
4/1/5	Parking	2300000 sq. ft	1990	13800	1971
Parking improvements estimated at about 6000 passenger plus employee and rental car spaces.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Oakland-Pontiac Code PTK

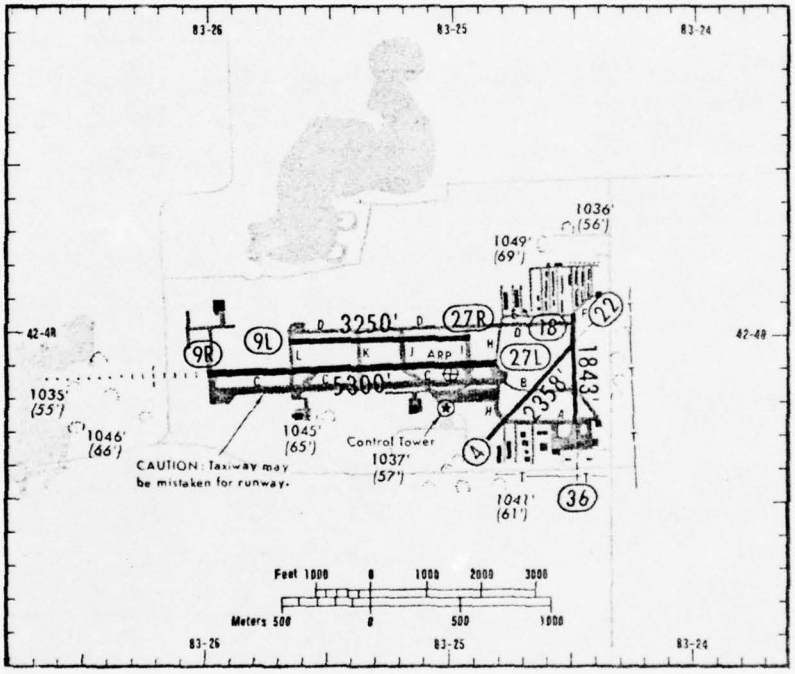
Hub Name Detroit Master Plan Status 1967

Approximate Distance and Direction to Hub CBD 35 miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 30 miles South

Name of That Airport Detroit Metropolitan Wayne Co. Number of Commuters 2

Approximate Number of Employees at Airport 300 as of 1975



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Oakland-Pontiac is the busiest airport in the State of Michigan in terms of aircraft operations. Most of the airport users are corporate or business (but no percentages are available). The major expansion plans at the airport are a 900 ft runway extension, 50 new T-hangars and 10 new conventional corporate hangars. A new industrial park serving the airport, "astropark", is being built with special taxiways/aprons to the park. The terminal building is at "100% usage" according to the aviation director, but expansion of the building will wait until a new Master Plan Study can be made.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985		
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi	0				
2.	General Aviation	366.8	319.2	343.2		
2a.	Itinerant	122.2	106.3	114.3		
2b.	Local	244.6	212.9	228.9		
3.	Military None	0	0	0		
4.	Total Aircraft Operations	366.8	319.2	343.2		
5.	Total FAA 1974 Forecasts		358.0	507.0		
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	510	527	565		
8a.	Single Engine	381	387	414		
8b.	Jets	14	11	13		
8c.	Seaplane	0	0	0		
9.	*Rotary Wing*	0	5	7		
10.	Total Based Aircraft	510	532	572		

PTK

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways

	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	4	2358	Same	--	VFR	MIRL	1980
2.	22	2358	Same	--	VFR	MIRL	1980
3.	9R	5300	6200	1976	ILS	Same	--
4.	27L	5300	6200	1976	VOR	LOC	1976
5.	9L	3250	Same	--	VFR	Same	--
6.	27R	3250	Same	--	VFR	Same	--
7.	18	1843	Same	--	VFR	MIRL	1980
8.	36	1843	Same	--	VFR	MIRL	1980
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 31,000 single wheel, BAC-111, DC-9, 140,000 dual tandem 727

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 5 Class B; 10 Class C; 85 Class D+E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	9R
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	No			

Airside Capacities (Operations)

		Actual	Forecast			
	Year:	1974				
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	300				

PTK

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1967	1976	1977	1980	
1. Parking Apron Area (000 sq ft)	277.9	277.9	277.9	277.9	
2. Hangar Area (000 sq ft)	630	630	630	730	
3. T-Hangar Parking Positions	87	134	184		
4. Conventional Hangars	17	23	23	33	
5. Terminal Building Area (sq ft)	11800	11800			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1967	1976	1980	1985	
1. Automobile Parking Spaces	120	120	270		
2. Access Road Capacity (vehicles/hr)	(2 lane - 25 mph)				
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	No	No	No	No	
5. Rail, Subway, Other Access	No	No	No	No	

PTK

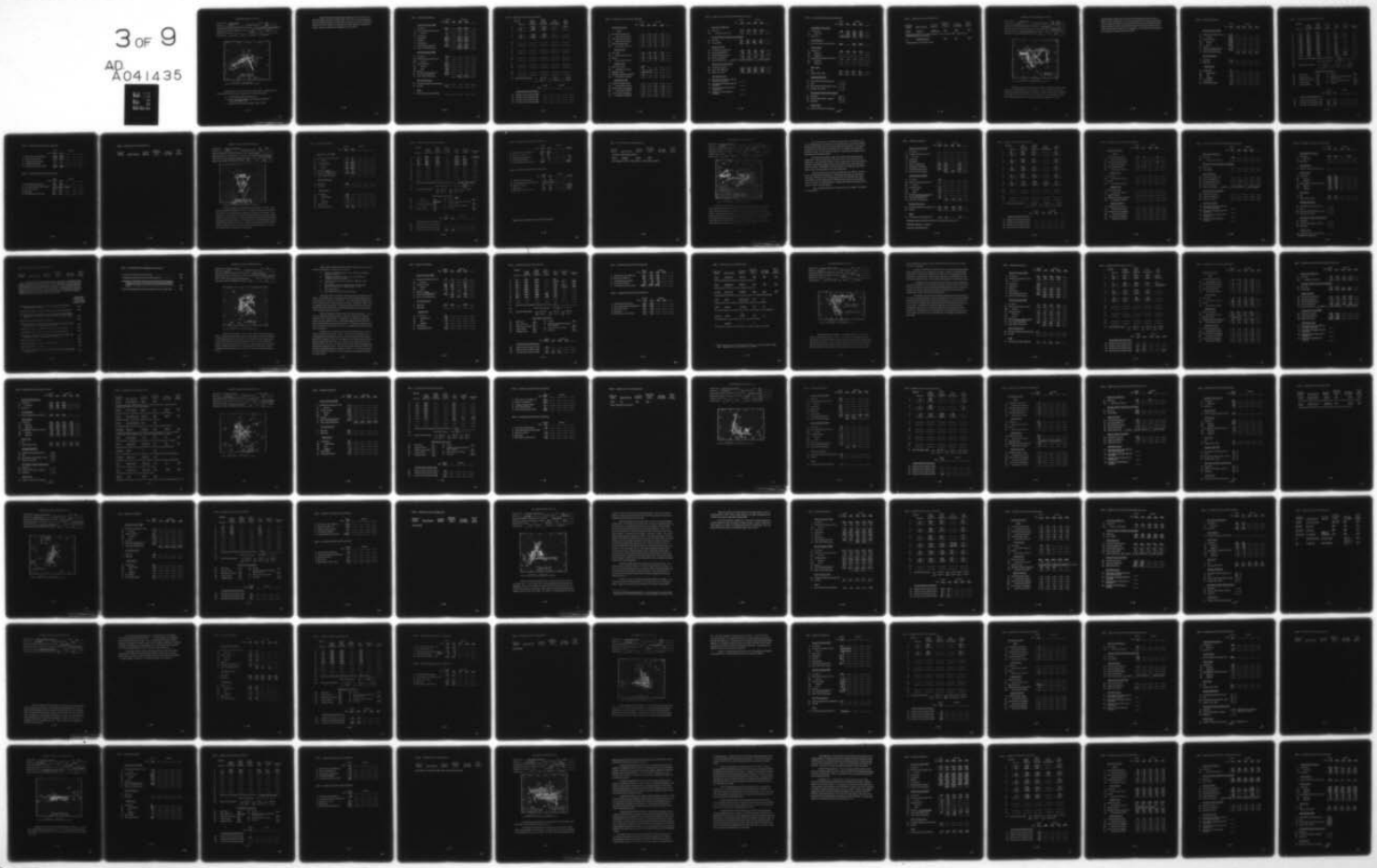
PART 5. EXPANSION COST INFORMATION

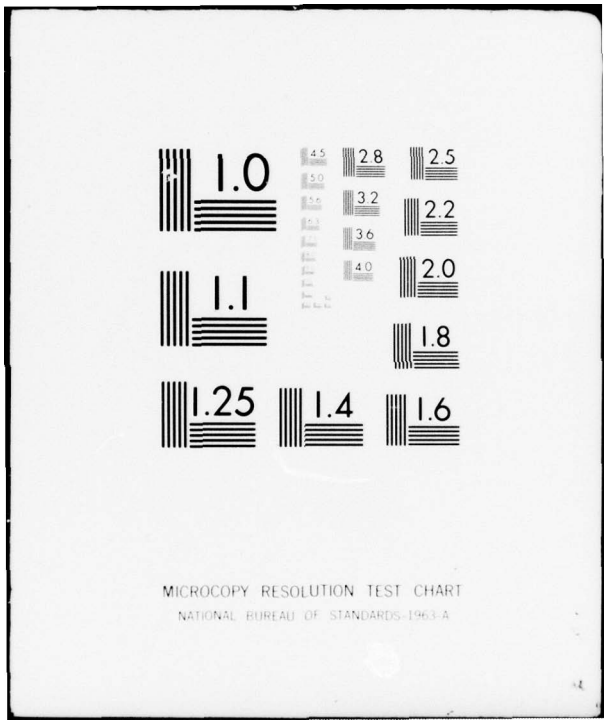
Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3,4/3	Runway	900 ft	1976	2500	1976
Extend runway 9R/27L by 900'.					
3/4/4	Hangars	10	1981	2000	1976
10 corporate hangars to be built over next five years each 10,000 sq. ft. @ $20/sq. ft.					
3/3/3	T-hangars	50 a/c	1977	750	1976

PTK

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA
UNCLASSIFIED FAA-AVP-77-26 NL

3 OF 9
AD A041435




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1.25
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6.3
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AIR CARRIER AIRPORT DATA LIST

Airport Name Toledo Express Code TOL

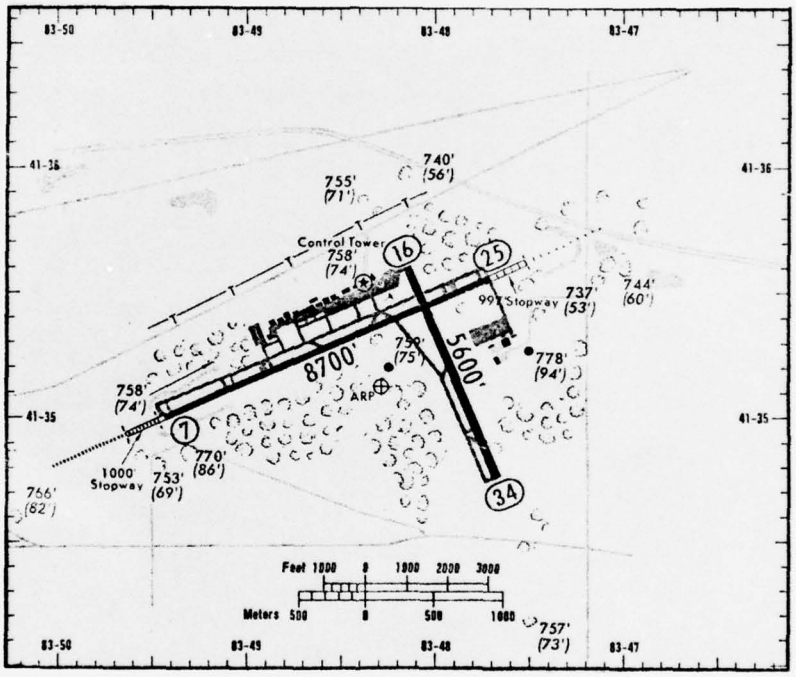
Hub Name Detroit Master Plan Status 1970

Approximate Distance and Direction to Hub CBD 15 miles to Toledo, 45 miles to Detroit

Approximate Number of Employees at Airport 765 as of 1976

Number of Air Carriers 4 Commuters 0

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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Toledo Express is a small hub air carrier airport which is considered as part of the Detroit hub for this study. Study statistics are from three sources:

1. A 1970 Charles Barber Master Plan Study.
2. A Peat, Marwick, Mitchell Terminal Complex Development Program of September 1973.
3. Discussions with the Airport Manager, February 1976.

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Beyond the present terminal/roadway expansion, there are no plans to increase the capacity of the airport before 1985. The terminal is more than doubling in size, but no additional gates or airside capacity changes are involved. The airport is owned by the City of Toledo, but is operated by the Port Authority of Toledo-Lucas County. Runway 7 is planned to be upgraded to Cat II by 1977.

PART 1. DEMAND FORECASTS

		Actual		Forecast		
	Year:	1970	1976	1980	1985	
	Enplaned Passengers (000)					
1.	Air Carrier	258.5		367.0	473.0	
2.	Commuter (Including Air Taxi)	0		0	0	
2a.	Air Taxi	0		0	0	
3.	Connecting	0		0	0	
4.	Originating	258.5		367.0	473.0	
5.	Domestic	258.5		367.0	473.0	
6.	International	0		0	0	
7.	Total Enplaned Passengers	258.5		367.0	473.0	
8.	Total FAA 1974 Forecasts			358.0	449.0	
	Aircraft Operations (000)					
9.	Air Carrier	24.8				
10.	Commuter (Including Air Taxi)	0				
10a.	Air Taxi	0				
11.	General Aviation	144.2				
11a.	Itinerant	88.2				
11b.	Local	56.0				
12.	Military	15.5				
13.	Total Aircraft Operations	184.5				
14.	Total FAA 1974 Forecasts			222.0	272.0	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft	54				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)					

TOL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	7	8700	Same	--	ILS-I
2.	25	8700	Same	--	
3.	16	5600	Same	--	
4.	34	5600	Same	--	
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	_____	_____	_____	_____	_____
17. Maximum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
18. Minimum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
19. Practical Annual Capacity (000)	_____	_____	_____	_____	_____

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1970	1976	1980	1985	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	6	6	6	6	
1a. International Terminal	0	0	0	0	
2. Wide Body Parking Positions	2	2	2	2	
2a. International Terminal	0	0	0	0	
3. Gates (Passenger Exits)	6	6	6	6	
3a. International Terminal	0	0	0	0	
Ticket Counters					
4. Linear Feet	124	124	124	124	
4a. International Terminal	0	0	0	0	
5. Stations	10	10	10	10	
5a. International Terminal	0	0	0	0	
Baggage Claim					
6. Public Area (sq ft)	1600				
6a. International Terminal	0	0	0	0	
7. Equipment Types	1 conveyor belt				
8. Equipment Capacity (bags/min)	60				
8a. International Terminal	0	0	0	0	
Security Inspection					
9. Parallel Passenger Servers	1		1	1	
9a. International Terminal	0	0	0	0	
10. Manual (Carry On Baggage)	0		0	0	
10a. International Terminal	0	0	0	0	
11. X-ray (Carry On Baggage)	1		1	1	
11a. International Terminal	0	0	0	0	

TOL

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1970	1976	1980	1985	
	Terminal Area (000 sq ft)					
12.	Total Area	35.5	89.0	89.0	89.0	
12a.	International Terminal	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	142	356	356	356	
14.	Annual (000)	355	890	890	890	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	12	12	12	12	
16.	Apron Area (000 sq ft)	90	90	90	90	
17.	Aircraft Parking Positions	0	0	0	0	
18.	Truck Loading Docks	12	12	12	12	
19.	Cargo Loading Type ____ Manual	X Semi-Automatic		____ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0	0	0	0	
21.	Apron Area (000 sq ft)	1700	1700	1700	1700	
22.	Hangar Area (sq ft)	900	900	900	900	
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

TOL

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1970	1976	1980	1985	
	Automobile Parking Spaces					
1.	Total Public	400	500	500	500	
1a.	Short Term		200	200	200	
2.	Rental Car	150 (estimate)		150	150	
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2000		2000	2000	
	Curb Frontage					
4.	Lineal Feet	300	650	650	650	
4a.	Enplaned					
4b.	Deplaned					
5.	International Terminal Lineal Feet	0	0	0	0	
5a.	Enplaned					
5b.	Deplaned					
	Mass Transit					
6.	Bus	No	No	No	No	
7.	Subway, Rail, Other	No	No	No	No	

Passenger Modal Split

8.	Automobile (Includes Rental Car)	____%
9.	Taxi	____%
10.	Bus (Includes Hotel Shuttles, Limos)	____%
11.	Subway, Rail, Other	____%

Percentage of People Entering Airport

12.	Passengers	43 %
13.	Visitors, Well Wishers, Greeters	57 %
14.	Employees	- %

Vehicle Count

15. Number of Vehicles Per Passenger ____

TOL

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/12/2	Terminal	50,000 sq. ft	1976	5500	1976
Expansion of terminal to more easily handle pax. No increase in gates, ticket counters; mainly holding area improvements. .					
4/	Roadway/Parking		1975	629	1973
Enlarged parking, new roadway system.					

TOL

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Willow Run Code YIP

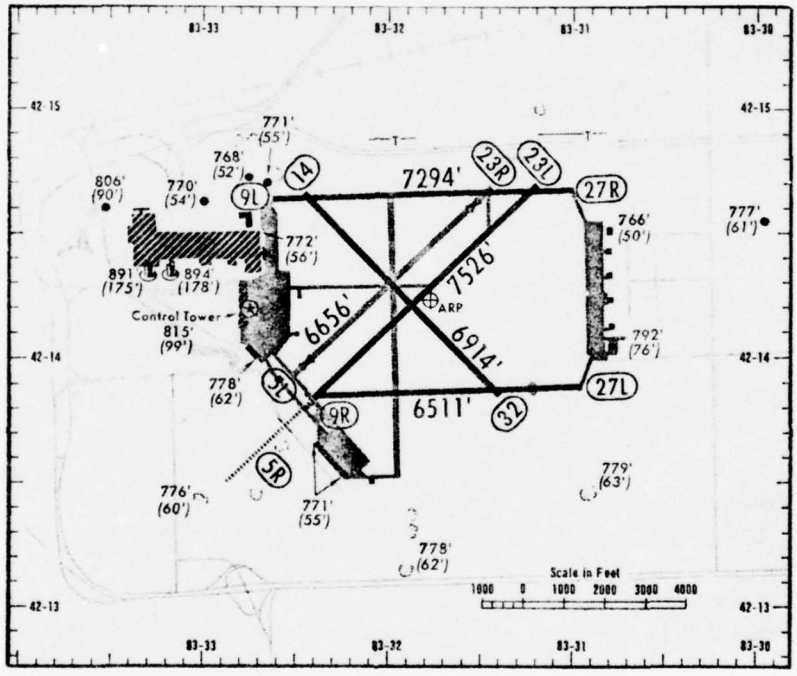
Hub Name Detroit Master Plan Status 1970 (Draft)

Approximate Distance and Direction to Hub CBD 25 miles East

Approximate Distance and Direction to Hub Air Carrier Airport 10 miles East

Name of That Airport Detroit Metropolitan Wayne Cty Number of Commuters 0

Approximate Number of Employees at Airport 1250 as of 1975



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Willow Run was the air carrier airport for Detroit until 1967. Now it is used primarily by the automobile and related industries as an air cargo base. Air cargo is the principal business at Willow Run. The airport is owned by the University of Michigan which wishes to divest itself of the airport; the airport is in need of extensive runway and building maintenance which the university feels is too expensive to warrant.

Stanford Research Institute has just (January 1976) completed a feasibility study to determine other possible owners. It was recommended that either the local governments (city or county) or the Wayne County Road Commissioners (who operate Detroit Metro Airport) operate the airport. Since both alternatives are politically controversial, the future of the airport is uncertain. As a consequence, no improvements will be planned for the airport until future ownership is decided.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973	1976	1977	1978	1981
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	32.99				
1a.	Air Taxi	24.85				
2.	General Aviation	163.81				
2a.	Itinerant	42.88				
2b.	Local	120.93				
3.	Military	0.82				
4.	Total Aircraft Operations	197.62				
5.	Total FAA 1974 Forecasts		212	222	232	275
	Aircraft Movements					
6.	Peak-Day	1300				
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	192				
8a.	Single Engine	72				
8b.	Jets	20				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	192				

YIP

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	5R	7526	Same	--	ILS		
2.	23L	7526	Same	--	LOC	ILS	
3.	5L	6656	Same	--	ASR		
4.	23R	6656	Same	--	ASR		
5.	9R	6511	Same	--	ASR		
6.	27L	6511	Same	--	ASR		
7.	9L	7294	Same	--	ASR		
8.	27R	7294	Same	--	ASR		
9.	14	6914	Same	--	ASR	VASI	
10.	32	6917	Same	--	ASR	VASI	

11. Heaviest Aircraft Capable of Using Primary Runway: B-707

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): ____ Class AA ____ Class A ____ Class B ____ Class C ____ Class D ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	5R
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1970	1976			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	217	217			
23.	Maximum Hourly Capacity (IFR)	116	116			
24.	Practical Annual Capacity (000)	475	475			

YIP

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1970	1976			
1. Parking Apron Area (000 sq ft)	36600	36600			
2. Hangar Area (000 sq ft)	110.5	110.5			
3. T-Hangar Parking Positions	0	0			
4. Conventional Hangars	9	9			
5. Terminal Building Area (sq ft)	72000	72000			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1970	1976			
1. Automobile Parking Spaces	3000	3000			
2. Access Road Capacity (vehicles/hr)	(2 lanes total - 30 mph)				
3. Rental Car Service	Yes	Yes			
4. Bus Access	No	No			
5. Rail, Subway, Other Access	No	No			

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Grosse Isle Municipal Code 2G5

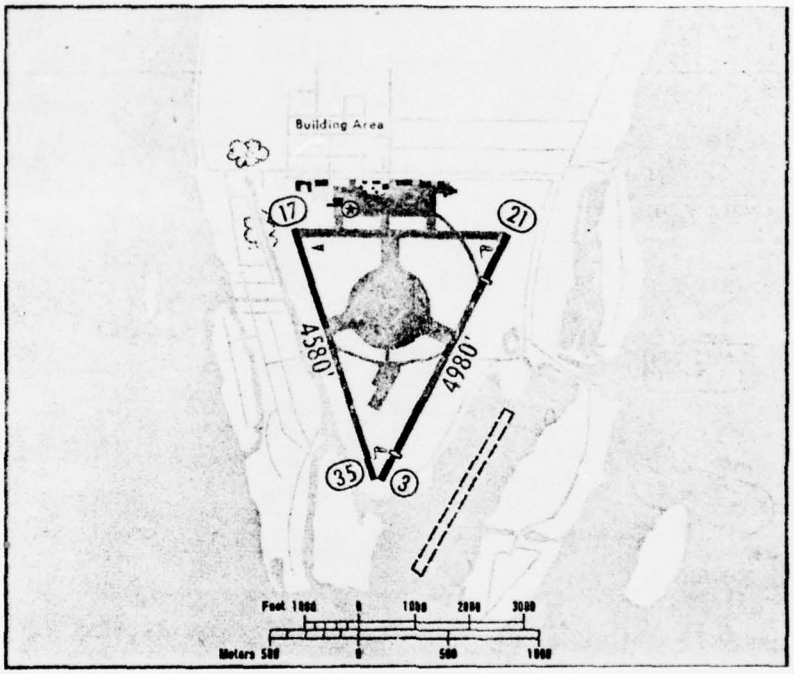
Hub Name Detroit Master Plan Status 1974

Approximate Distance and Direction to Hub CBD 20 miles North

Approximate Distance and Direction to Hub Air Carrier Airport 12 miles Northwest

Name of That Airport Detroit Metropolitan Wayne Co. Number of Commuters 0

Approximate Number of Employees at Airport 370 as of 1976



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Grosse Isle Municipal is the former Grosse Isle Naval Air Station. It was sold to the township of Grosse Isle in 1971. As a former military base, the facilities existing there are much more than are required for a general aviation airport. Consequently, an area of military buildings is being converted into a light industrial park, Hangar 3 is now a racquet club, and the Environmental Protection Agency has claimed a few airport buildings. There are no T-hangars on the non-towered airport but one is being built which will house 15 aircraft. If this proves profitable, more will be built. The April 1974 Master Plan outlines several major runway improvements, but the airport manager doubts that these will be implemented.

PART 1. DEMAND FORECASTS

		Actual		Forecast		
	Year:	1973	1975			
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0			
1a.	Air Taxi	0	0			
2.	General Aviation	133	153.0			
2a.	Itinerant	11	12.7			
2b.	Local	122	140.3			
3.	Military Naval	0	0			
4.	Total Aircraft Operations	133	153.0			
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day	450				
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	138				
8a.	Single Engine	132				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	2				
10.	Total Based Aircraft	140	150			

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	3	4405	Same	--	VOR-A	ILS	Uncertain
2.	21	4135	Same	--	VOR-A	Same	--
3.	17	4580	Same	--	VOR-A	Same	--
4.	35	4580	Same	--	VOR-A	Same	--
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: Citation, "402", Baron

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 5 Class C; 95 Class D + E

Miscellaneous Airside Data

13.	FAA Tower	No	18.	Unicom	Yes
14.	Hours of Service	0800-2100	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	3
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1973	1976			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	180	180			

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1973	1976			Ultimate
1. Parking Apron Area (000 sq ft)	533.7	533.7			
2. Hangar Area (000 sq ft)	387	387			
3. T-Hangar Parking Positions	0	15			90
4. Conventional Hangars	2	2			4
5. Terminal Building Area (sq ft)	23000 *				23000

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1973	1976			Ultimate
1. Automobile Parking Spaces	113	113			
2. Access Road Capacity (vehicles/hr)	(2 lanes - 25 mph)				
3. Rental Car Service	No	No			Maybe
4. Bus Access	No	No			Maybe
5. Rail, Subway, Other Access	No	No			No

*Present "terminal" facilities are located inside Hangar #2.

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
No capacity improvements planned.					
3/3/2	T-hangar	15 a/c	1976		
One T-hangar for 15 a/c is being built; no cost estimate available.					

AIR CARRIER AIRPORT DATA LIST

Airport Name Honolulu International Code HNL

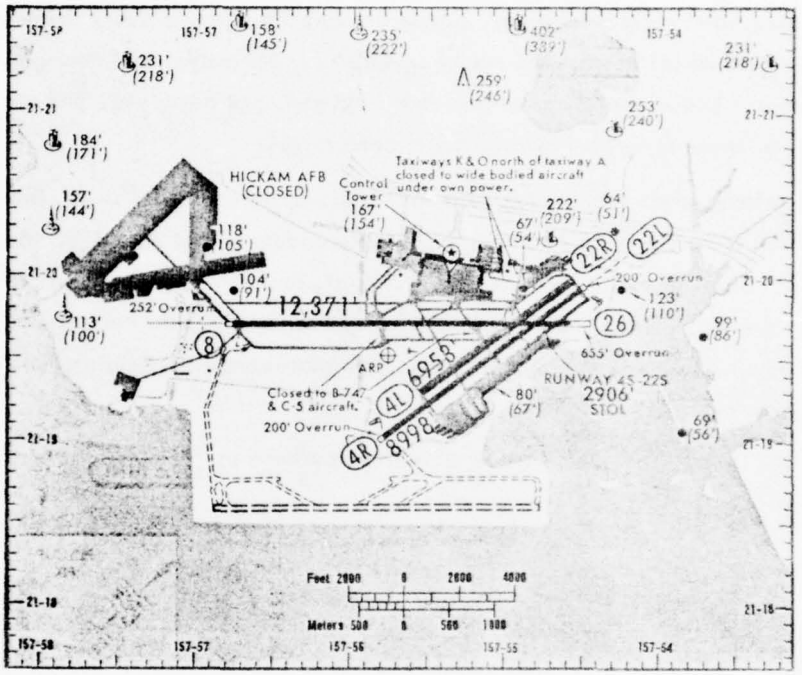
Hub Name Honolulu Master Plan Status Underway - 1978

Approximate Distance and Direction to Hub CBD 4 Miles Southeast

Approximate Number of Employees at Airport 7300 as of 1972

Number of Air Carriers 19 Commuters 4

Terminal Type: X Linear X Pier ___ Satellite ___ Transporter



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All non-military airports in Hawaii are owned and operated by the state, and the primary planning agency is the state Department of Transportation. Unlike most major airports, Honolulu does not appear to encounter major opposition to airport expansion. Airport expansion projects which are definitely planned or seriously considered include the following: improving ground access by extending an interstate highway exit to the airport; providing passenger access to the airport by means of an intra-island ferry; providing a "monorail" type of mass transit access to the airport; constructing a new general aviation terminal; and building a new parallel runway.

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The new reef runway is currently under construction. This project was not only virtually unopposed by residents, it was supported by them as a means of diverting aircraft operations further out to sea and thus reducing noise pollution. The expansion of interstate H-1 to the airport has also begun, but it is delayed at this point due to jurisdictional issues. The new mass transit project is currently being considered by the Urban Mass Transit Authority (UMTA).

The state has put together a task force to extend airport master planning through 1995. Other principal facets of this plan will be a new concourse for wide-bodied jets, a new inter-island terminal, a new air cargo center, a new marine terminal, additional wide-bodied jet gates, additional reef runway taxiways, and new general aviation facilities. Unfortunately, the new master plan is not complete, and specific details of many of these projects have not been determined.

The primary data sources for data included herein are as follows: The 1975 Airport System Revenue Bond Prospectus, 1974 Memorandum on the new 1995 Master Plan Study, 1970 State of Hawaii Airport System Plan, and 1968 Master Plan Study. Unfortunately, specific details from the 1995 Master Plan study were not available in time for this study. The 1968 Master Plan, although most complete data source for this study is, however, somewhat obsolete.

Note: interisland operations are referred to here as "domestic" and overseas as "international".

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1969	1975	1980	1985	
	Enplaned Passengers (000)*					
1.	Air Carrier					
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic (Interisland)	1034	1810		3070	
6.	International (Overseas)	1615	3440		7180	
7.	Total Enplaned Passengers	2649	5250		10250	
8.	Total FAA 1974 Forecasts		4532	6137	7772	
	Aircraft Operations (000)					
9.	Air Carrier	128				
10.	Commuter (Including Air Taxi)**	0				
10a.	Air Taxi					
11.	General Aviation	141				
11a.	Itinerant	84				
11b.	Local	57				
12.	Military Air Force and Nat'l Gd	71				
13.	Total Aircraft Operations	340				
14.	Total FAA 1974 Forecasts		330	438	622	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)+	6300	8000	9800	12200	
16.	Aircraft	89	97	106	116	
	Cargo					
17.	Total Enplaned Cargo (000 Tons)*	80	223		1040	

*Enplaned assumed to be 50% of total from 1970 State Airport System Plan.

**Commuter included in air carriers.

+Taken from 1967 Master Plan.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4R	8998	Same	-	ILS
2.	22L	8998	Same	-	VFR
3.	4L	6953	Same	-	VFR
4.	22R	6953	Same	-	VFR
5.	4S	2906	Same	-	VFR
6.	22S	2906	Same	-	VFR
7.	8	12371	Same	-	ILS
8.	26	12371	Same	-	VFR
9.	8R	None	12000	1976	ILS
10.	26L	None	12000	1976	ILS
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

	Actual	Forecast			
Year:	1970	1975	1980	1985	_____
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)					
17. Maximum Hourly Capacity (IFR)					
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)					

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1970	1975	1980	1985	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	45	48		68	
1a. International Terminal					
2. Wide Body Parking Positions		5		34	
2a. International Terminal					
3. Gates (Passenger Exits)	35	35			
3a. International Terminal					
Ticket Counters					
4. Linear Feet					
4a. International Terminal					
5. Stations					
5a. International Terminal					
Baggage Claim					
6. Public Area (sq ft)					
6a. International Terminal					
7. Equipment Types					
8. Equipment Capacity (bags/min)					
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers					
9a. International Terminal					
10. Manual (Carry On Baggage)					
10a. International Terminal					
11. X-ray (Carry On Baggage)					
11a. International Terminal					

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1970	1975	1980	1985	_____
	Terminal Area (000 sq ft)					
12.	Total Area	500				
12a.	International Terminal					
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour					
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)					
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions		7			
18.	Truck Loading Docks					
19.	Cargo Loading Type ____Manual ____Semi-Automatic ____Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)					
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1970	1975	1980	1985	_____
	Automobile Parking Spaces					
1.	Total Public	2400	6400	_____	10000	_____
1a.	Short Term	_____	_____	_____	_____	_____
2.	Rental Car	_____	_____	_____	_____	_____
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	_____	_____	_____	_____	_____
	Curb Frontage*					
4.	Lineal Feet	6000	6000	_____	_____	_____
4a.	Enplaned	3000	3000	_____	_____	_____
4b.	Deplaned	3000	3000	_____	_____	_____
5.	International Terminal Lineal Feet	1200	1200	_____	_____	_____
5a.	Enplaned	600	600	_____	_____	_____
5b.	Deplaned	600	600	_____	_____	_____
	Mass Transit					
6.	Bus	Yes	Yes	_____	_____	_____
7.	Subway, Rail, Other	No	No	_____	_____	_____

Passenger Modal Split

8.	Automobile (Includes Rental Car)	_____%
9.	Taxi	_____%
10.	Bus (Includes Hotel Shuttles, Limos)	_____%
11.	Subway, Rail, Other	_____%

Percentage of People Entering Airport

12.	Passengers	_____%
13.	Visitors, Well Wishers, Greeters	_____%
14.	Employees	_____%

Vehicle Count

15. Number of Vehicles Per Passenger _____

*Estimated from layout plan.

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

The Airports Division program for additions, expansions and improvements of the Honolulu International Airport, some of which is under construction, is planned to improve facilities for Hawaii air passengers and cargo. Parts of this program have been authorized by the legislature and funds appropriated as indicated by asterisks. Estimates of Airports Division revenue and expenses which follow are premised on completion of the items in the program for which the legislature has appropriated funds. Principal elements of the entire program are listed below with approximate completion dates. (Data taken from Official Statement, Airports System Revenue Bonds, Series of 1975).

	Approximate Completion Dates, Fiscal Years Ending June 30th
*New passenger boarding gates 7, 8 and 9 at the Diamond Head terminal building (under construction)	1976
*Access service roadways relocation and improvement (under construction)	1978
*The new "reef" runway to provide a second, long major runway 6,700 feet offshore from and parallel to the existing major runway (under construction)	1976
*New multi-level automobile parking structures	1980
*Extension of central terminal building toward Diamond Head to provide more passenger check-in and baggage claim facilities	1976
*Progressive development of additional hardstands for B-747 aircraft	1981
*An automobile express roadway connection to the nearby freeway H1	1978
Extension of the International arrivals building with more U.S. Customs and Immigration inspection and baggage claim facilities	1979
*Parking lot for Airport tenants	1976
*Addition of baggage claim area, Ewa side of terminal	1976
*Loading bridges for gates 7 and 8	1976
*A new, longer interisland airlines passenger terminal building and automobile parking structure	1979

PART 5. EXPANSION COST INFORMATION (Continued)

*An air taxi and group tours service facility	1977
A high-speed taxiway from runway 4R to the south ramp	1979
*Improvements to the central concourse to provide second level passenger loading of DC10 and L-1011 aircraft with loading bridges and moving sidewalks plus reconstruction of the ramp apron and aircraft fueling system	1977
*New aircraft hardstands and other improvements for the air cargo center	1976

GENERAL AVIATION AIRPORT DATA LIST

Airport Name William P. Hobby Code HOU

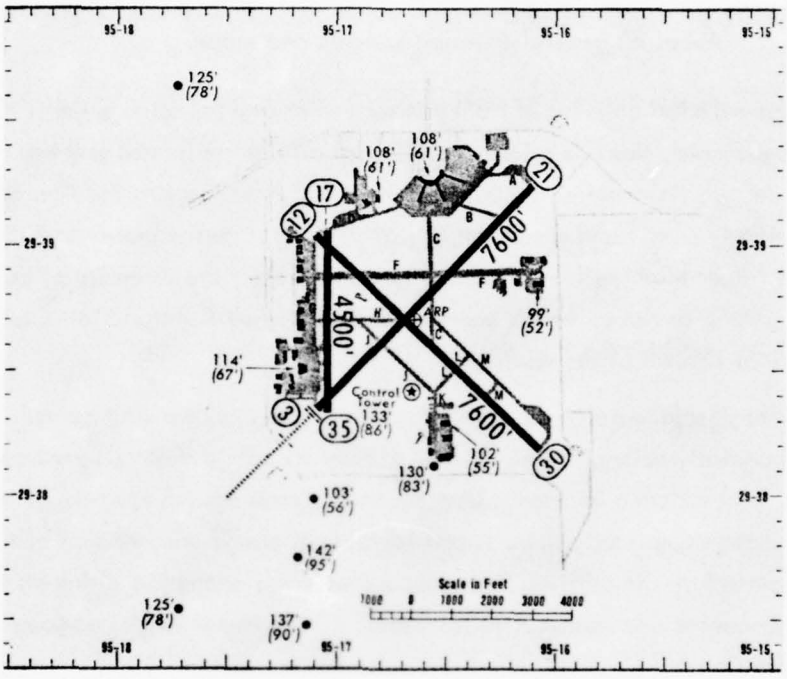
Hub Name Houston Master Plan Status 1971

Approximate Distance and Direction to Hub CBD 10 Miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 23 Miles Northwest

Name of That Airport Houston Intercontinental Number of Commuters 1

Approximate Number of Employees at Airport 900 as of 1975



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Hobby Airport in Houston, Texas has some interesting characteristics that make it a somewhat unusual reliever general aviation airport. Hobby was established in 1937 and served for 32 years as Houston's only commercial airport, providing facilities for both commercial airlines and general aviation. In June 1969 all commercial airline service was transferred to the city's new jet airport, Houston Intercontinental. Hobby then became the city's primary general aviation field. Limited scheduled intrastate airline service to three Texas cities was introduced at Hobby in 1971-72.

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Hobby Airport is located in southeast Houston only about 10 miles from the central business district. Existing facilities include:

- 3R-21L runs northeast-southwest, and is 150 feet by 7,600 feet, paved with concrete.
- 12R-30L runs northwest-southeast, and is also 150 feet by 7,600 feet, paved with concrete.
- 17-35 runs north-south and is 150 feet by 4,500 feet, paved with concrete.
- One passenger terminal with approximately 164,000 square feet of which only about 6,700 square feet is in use.
- One cargo building.
- About 40 general aviation hangars and shops.

The aviation activity of Hobby is somewhat unusual for a general aviation airport. For example, there is a large percentage of high performance general aviation aircraft (e.g., light twins, business jets). Also, hourly operation figures show distinct morning (9 a.m.) and afternoon (5 p.m.) peaks. Furthermore, traffic is heavier weekdays rather than weekends. These patterns reflect the intensity of business related flying done at Hobby which is understandable since Houston claims to be the "Petro-chemical capital of the world."

Hobby is undergoing "shrinking" pains rather than growing pains. To continue as a financially self-sufficient entity, Hobby is scaling down its expansion endeavors to meet existing demand. Consequently, even though long-range master planning has been completed, there is considerable slippage and revision of these plans to accommodate the existing financial stance. For example, although the plan calls for new runways and taxiways at this time, all pavement funds are going toward resurfacing projects.

Comments must be made about two items in the Hobby data list. The first concerns the number of jets (Part 1, Line 8). The number is estimated from the available general aviation operational activity data by taking the fraction of turboprop (11%) to Turbojet (14%) activity and applying it to the total number of turbine-powered aircraft (76) based at HOU. This assumes that the utilization of the two types of aircraft is the same. The second comment concerns some of the proposed terminal facility expansion in Part 5. Expansion of the apron and hangar facilities will be done by Fixed Based Operators or lessees of the airport. Thus, the exact nature of the various facilities is uncertain, and corresponding cost and implementation dates are equally obscure.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1972	1975	1980	1985	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	12	16		16	
1a.	Air Taxi		5		5	
2.	General Aviation	220	281		470	
2a.	Itinerant	198	253		423	
2b.	Local	22	28		47	
3.	Military Various	3	3	3	3	
4.	Total Aircraft Operations	235	300		489	
5.	Total FAA 1974 Forecasts		282	373	530	
	Aircraft Movements					
6.	Peak-Day	1093	1400		2295	
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	567				
8a.	Single Engine	249				
8b.	Jets	43				
8c.	Seaplane	0				
9.	Rotary Wing	13				
10.	Total Based Aircraft	580				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	3R	7600	Same		ILS		
2.	21L	7600	Same		LOC-BC	ILS	1980
3.	12R	7600	Same		VOR	ILS	1976
4.	30L	7600	Same		VOR	LOC-BC	1976
5.	17	4500	Same		VFR		
6.	35	4500	Same		VFR		
7.	12L	None	4800	1980	VFR		
8.	30R	None	4800	1980	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 707

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 1 Class A; 1 Class B; 24 Class C; 24 Class D; 50 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	All	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	3R
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	Yes			

	Year:	Actual 1972	1975	Forecast 1980	1985	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	166				
23.	Maximum Hourly Capacity (IFR)	62				
24.	Practical Annual Capacity (000)	276	326	426		

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1975	1980	1985	_____
1. Parking Apron Area (000 sq ft)	1080	1080	1080	_____	_____
2. Hangar Area (000 sq ft)	826	826	866	_____	_____
3. T-Hangar Parking Positions	20	20	220	_____	_____
4. Conventional Hangars	39	39	40	_____	_____
5. Terminal Building Area (sq ft)	164000	164000	164000	_____	_____

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1975	1980	1985	_____
1. Automobile Parking Spaces	1400	1400	_____	_____	_____
2. Access Road Capacity (vehicles/hr)	2400	2400	_____	_____	_____
3. Rental Car Service	Yes	Yes	_____	_____	_____
4. Bus Access	No	No	_____	_____	_____
5. Rail, Subway, Other Access	No	No	_____	_____	_____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/2/6	Landing Aid	21L-ILS	1980	300	1975
Add ILS to R/W 21L to provide lower approach minimums.					
2/3/6	Landing Aid	12R-ILS	1976	300	1975
Add ILS to R/W 12R to provide lower approach minimums.					
2/7,8/3	Parallel RW	PANCAP	1980	403	1972
Add parallel R/W 12L/30R to increase airside capacity to a PANCAP of 426,000.					
3/1/3	Apron	250 tiedowns	1977	(1)	
Additional aprons and tiedowns installed by FBO adjacent to new hangars.					
3/3/3	Hangars	10 T-type	1977	(1)	
Ten T-type hangars to be constructed by an FBO. Each hangar will have 20 spaces.					
3/2,4/3	Hangar	One Hangar	1977	(1)	
One 40,000 sq ft conventional hangar to be constructed by FBO.					
--	Landisde	--	--	--	
All landside facilities considered adequate; no landside expansion is planned.					

(1) These terminal facilities will be installed by FBO's at no cost to the airport management. Consequently, no cost estimate data is available.

AIR CARRIER AIRPORT DATA LIST

Airport Name Houston Intercontinental Code IAH

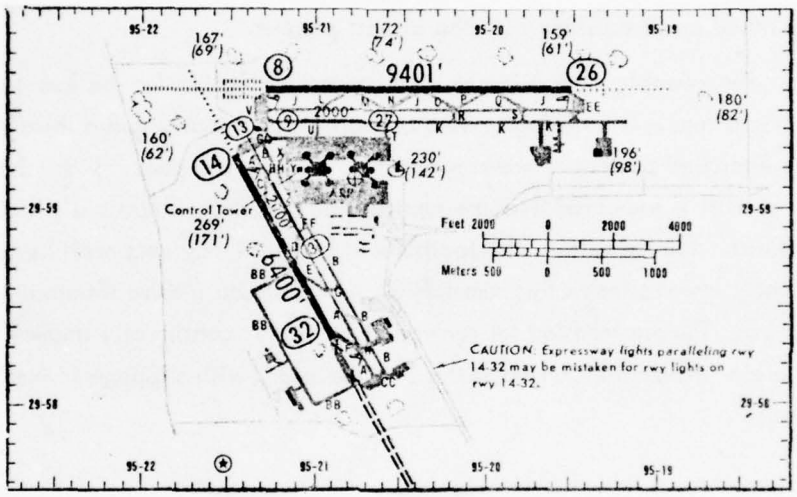
Hub Name Houston Master Plan Status 1971

Approximate Distance and Direction to Hub CBD 15 miles South

Approximate Number of Employees at Airport 5500 as of 1974

Number of Air Carriers 12 Commuters 4

Terminal Type: ____ Linear X Pier X Satellite ____ Transporter



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Houston Intercontinental Airport is sited approximately 15 miles north of Houston's central business district. Houston is a major center of commerce, finance and industry in the southwest with petro-chemical endeavors comprising a major percentage of the industrial base. IAH was created in the late sixties to meet ever-increasing demands for expanded aircraft facilities beyond the capabilities of the city's existing airfield: William P. Hobby Airport. Ranking among the most modern airports in the

world, IAH officially opened on June 8, 1969 as the first of its kind to serve a large U.S. hub in the jet age.

Initially it was expected that IAH would vie as a major international gateway for the southwest as well as a major port for air cargo. However, the new Dallas/Fort Worth airport is offering major competition for these roles. This development plus the overall recent softening of the national economy have kept the predicted growth trends for IAH from reaching fruition. Instead, more moderate growth in demand has occurred.

In recognition of the growing demand upon the airport in terms of passengers, air cargo, and especially the new generations of larger and heavier aircraft, the city of Houston commissioned a study for the Second Stage Development of IAH. The data contained in this summary is based upon that study, but some of the entries have been modified based on discussions with the airport planners.

For example, the original long range plan called for the eventual erection of four identical terminal buildings. Two are in existence now, and a third will be needed when the enplaned passenger count reaches six million per year. Now, however, due to rising costs it is expected that the next building will not identically match the existing structures. Nevertheless, the facilities it provides may very well be similar. Consequently the entries in this summary provide data on a third terminal similar to the first two. The master plan for runway expansion is continually under review; thus, entries herein reflect the current status of those plans with slippage in implementation dates likely.

PART 1. DEMAND FORECASTS

		Actual Year: 1974	Forecast 1975	1980	1985	1990
	Enplaned Passengers (000)					
1.	Air Carrier	2919	3954	6508	10428	
2.	Commuter (Including Air Taxi)	169	379	526	678	
2a.	Air Taxi					
3.	Connecting	618				
4.	Originating	2470				
5.	Domestic	2901	4167	6738	10592	
6.	International	187	166	296	514	
7.	Total Enplaned Passengers	3088	4333	7034	11106	
8.	Total FAA 1974 Forecasts		2759	3744	4767	
	Aircraft Operations (000)					
9.	Air Carrier	117	202	262	326	
10.	Commuter (Including Air Taxi)	32	35	37	40	
10a.	Air Taxi					
11.	General Aviation	35	81	104	131	
11a.	Itinerant	35	81	104	131	
11b.	Local	0	0	0	0	
12.	Military (Various; approx. 400/yr)	0	0	0	0	
13.	Total Aircraft Operations	184	318	403	497	
14.	Total FAA 1974 Forecasts		206	272	387	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	1719				
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	52	93	202	418	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	8L	9401	12000	1980+	ILS-II
2.	26R	9401	12000	1980+	LOC-BC
3.	14	6400	12000	1976	ILS
4.	32	6400	12000	1976	LOC-BC-DME
5.	8R	None	12000	1990	
6.	26R	None	12000	1990	
7.	14R	None	4000	1990	
8.	32L	None	4000	1990	
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 4 Class AA 8 Class A 68 Class B 7 Class C 7 Class D 6 Class E

		Actual		Forecast		
	Year:	1974	1975	1980	1985	1990
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	71	71			
17.	Maximum Hourly Capacity (IFR)	63	63			
18.	Minimum Hourly Capacity (IFR)	45	45			
19.	Practical Annual Capacity (000)	235	235			350

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1975	1980	1985	1990
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	50	50	75	75	
1a. International Terminal	5	5	10	10	
2. Wide Body Parking Positions	24	24	36	36	
2a. International Terminal	3	3	6	6	
3. Gates (Passenger Exits)	41	41	61	61	
3a. International Terminal	5	5	10	10	
Ticket Counters					
4. Linear Feet	775	775	1163	1163	
4a. International Terminal	200	200	300	300	
5. Stations	120	120	180	180	
5a. International Terminal	36	36	54	54	
Baggage Claim					
6. Public Area (sq ft)	14647	14647	21971	21971	
6a. International Terminal	1465	1465	2197	2197	
7. Equipment Types	9 conveyor belts				
8. Equipment Capacity (bags/min)	270	270	405	405	
8a. International Terminal	30	30	45	45	
Security Inspection					
9. Parallel Passenger Servers	8	8	12	12	
9a. International Terminal	1	1	2	2	
10. Manual (Carry On Baggage)	3	3	0	0	
10a. International Terminal	2	2	0	0	
11. X-ray (Carry On Baggage)	6	6	12	12	
11a. International Terminal	0	0	2	2	

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1974	1975	1980	1985	1990
	Terminal Area (000 sq ft)					
12.	Total Area	500	500	750	750	
12a.	International Terminal	62.5	62.5	93.75	93.75	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	1719	1719			
14.	Annual (000)	7000	7901	13003	20831	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	151	151	180	300	
16.	Apron Area (000 sq ft)	165	165	265	330	
17.	Aircraft Parking Positions	3	3	5	6	
18.	Truck Loading Docks	204	204	240	400	
19.	Cargo Loading Type	X Manual		___ Semi-Automatic		___ Fully Automatic
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	16240	16240			
21.	Apron Area (000 sq ft)	368	368			
22.	Hangar Area (sq ft)	133000	133000			
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1974	1975	1980	1985	1990
	Automobile Parking Spaces					
1.	Total Public	5500	5500	8800		
1a.	Short Term	1650	1650	3450		
2.	Rental Car	200	200	200		
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	4800	4800	4800		
	Curb Frontage					
4.	Lineal Feet	5400	5400	8100	8100	
4a.	Enplaned	1800	1800	2700	2700	
4b.	Deplaned	3600	3600	5400	5400	
5.	International Terminal Lineal Feet	450	450	675	675	
5a.	Enplaned	225	225	337	337	
5b.	Deplaned	225	225	338	338	
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	No	No	No

Passenger Modal Split

8.	Automobile (Includes Rental Car)	88 %
9.	Taxi	6 %
10.	Bus (Includes Hotel Shuttles, Limos)	6 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	%
13.	Visitors, Well Wishers, Greeters	%
14.	Employees	%

Vehicle Count

15.	Number of Vehicles Per Passenger	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2/3	R/W 8L/26R Ext.	2600 ft	1980+		

This runway extension, although called for in the 1970-71 Master Plan, may not ever be completed; hence there is no cost data available.

2/3,4/3	R/W 14/32 Ext.	5600 ft	1976	10000	1974

Runway extension to accommodate heavier payloads and greater margins of safety.

2/5,6/3	New 8R/26L R/W	12000 ft	1990	45000	1975

Additional parallel runway needed to increase airside capacity.

2/7,8/3	New 14R/32L R/W	4000	1990		

This proposed general aviation runway may not be built in the foreseeable future.

3/Various/3	Terminal	20 Gates	1980	50000	1975

A new terminal will be needed in the 6 million enplaned passenger year. It will be similar in capacity to existing terminals A and B, but not necessarily similar in design.

3/11/3	X-ray/screens	2 units	1976	80	1975

X-ray inspection of baggage to be available to replace manual searching in 3 positions.

3/16/3	Cargo Apron	100000 sq ft	1977	900	1975

Cargo apron area needed to park more aircraft for use with existing cargo facilities.

3/15,18/3	Docks	36	1976		

36 truck loading docks are under construction as part of cargo facility expansion program.

3/Various 4	Cargo Apron	65000 sq ft	1985		

Additional cargo apron area and facilities planned for westward expansion of existing site.

4/1/3	Auto Parking	1500 spaces	1977	750	1975

1500 long-term parking spaces by paving in remote areas.

4/1/3	Auto Parking	1800 spaces	1978	11500	1978

1800 short term parking spaces by adding garage levels.

4/4,5/3	Curb	2700 ft	1980		

Additional curb frontage as a result of new terminal similar to that of existing terminals A and B.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Fairfax Municipal Code KCK

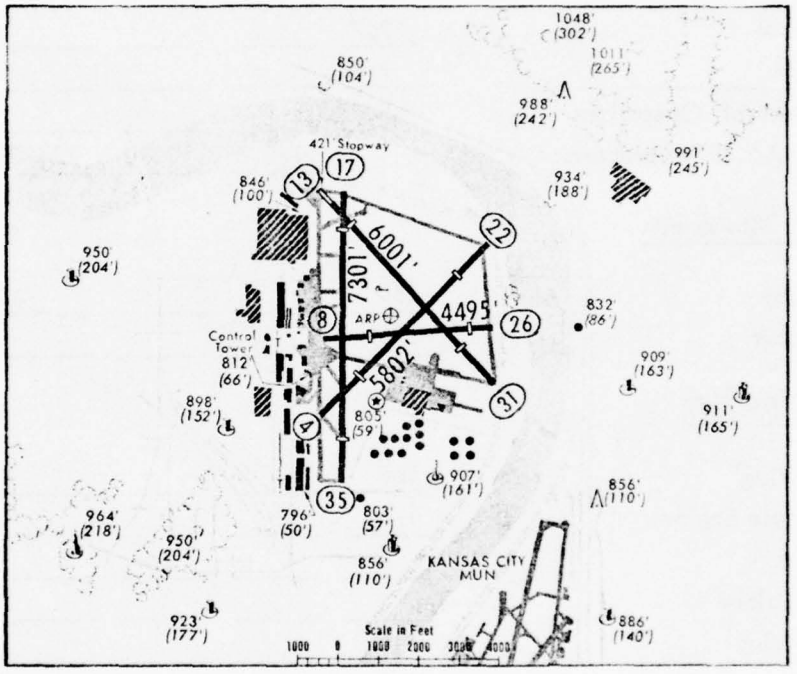
Hub Name Kansas City Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 3 Miles West

Approximate Distance and Direction to Hub Air Carrier Airport 15 Miles Northwest

Name of That Airport Kansas City International Number of Commuters None

Approximate Number of Employees at Airport 100 as of 1975



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1977	1978	1981	1986
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.7				
1a.	Air Taxi	0.7				
2.	General Aviation	143.2				
2a.	Itinerant	63.5				
2b.	Local	79.7				
3.	Military	1.8				
4.	Total Aircraft Operations	145.7				
5.	Total FAA 1974 Forecasts		188.0	196.0	233.0	334.0
	Aircraft Movements					
6.	Peak-Day	860				
7.	Peak-Hour	145				
	Based Aircraft					
8.	Fixed Wing	160				
8a.	Single Engine	125				
8b.	Jets	2				
8c.	Seaplane	0				
9.	Rotary Wing	15				
10.	Total Based Aircraft	175				

KCK

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	4	4546			VFR		
2.	22	4708			VFR		
3.	8	3410			VFR		
4.	26	4054			VFR		
5.	13	5156			VFR		
6.	31	4757			VFR		
7.	17	6162			VFR	ILS	1978
8.	35	6147			VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-747

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 4 Class C; 18 Class D; 78 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	17
16.	Vortac Station	Yes	21.	Joint Use	Yes
17.	Weather Station	Yes			

	Year:	Actual 1975	Forecast			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	200				
23.	Maximum Hourly Capacity (IFR)	25				
24.	Practical Annual Capacity (000)	500				

KCK

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	842.4				
2. Hangar Area (000 sq ft)	236.3				
3. T-Hangar Parking Positions	10				
4. Conventional Hangars	13				
5. Terminal Building Area (sq ft)	15000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	300				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

KCK

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7/6	ILS	10%	1978		

Runway landing aid improvement.

KCK

AIR CARRIER AIRPORT DATA LIST

Airport Name Kansas City International Code MCI

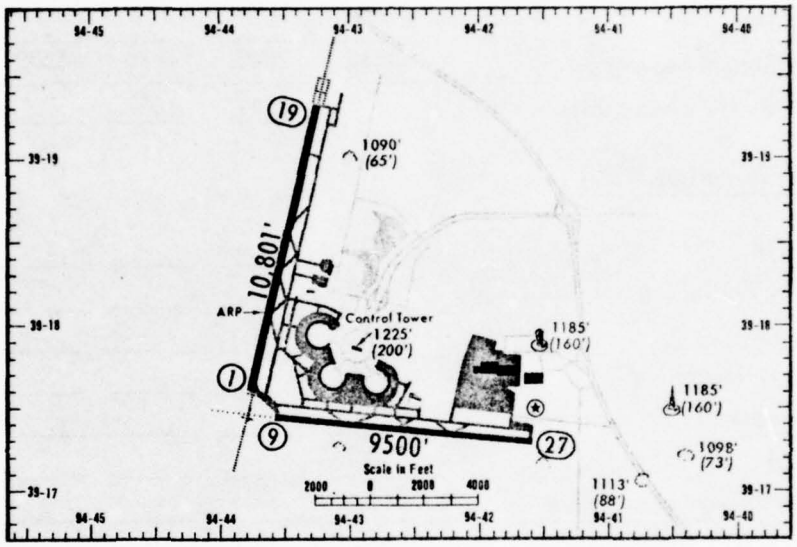
Hub Name Kansas City Master Plan Status 1974

Approximate Distance and Direction to Hub CBD 18 Miles Southeast

Approximate Number of Employees at Airport 11,000 as of 1975

Number of Air Carriers 9 Commuters 6 pax + 5 mail

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	1995
	Enplaned Passengers (000)					
1.	Air Carrier	2188				
2.	Commuter (Including Air Taxi)	42				
2a.	Air Taxi					
3.	Connecting	801				
4.	Originating	1429				
5.	Domestic	2190				
6.	International	40				
7.	Total Enplaned Passengers	2230	2862	4176	5589	7945
8.	Total FAA 1974 Forecasts		3341	4603		
	Aircraft Operations (000)					
9.	Air Carrier	105				
10.	Commuter (Including Air Taxi)	48				
10a.	Air Taxi					
11.	General Aviation	24				
11a.	Itinerant	14				
11b.	Local	10				
12.	Military	2				
13.	Total Aircraft Operations	179				
14.	Total FAA 1974 Forecasts		237	302		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	1000				
16.	Aircraft	51				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	36				

MCI

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	1	9381			ILS
2.	19	9901			ILS-II
3.	9	8220			ILS
4.	27	8220			ILS
5.	1R	None	10000	1985	
6.	19L	None	10000	1985	
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 5 Class AA+A ____ Class A 90 Class B
5 Class C 0 Class D 0 Class E

	Actual	Forecast			
Year:	1975				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)					
17. Maximum Hourly Capacity (IFR)					
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)	269				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1975		Forecast 1985		
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	51				
1a. International Terminal	1				
2. Wide Body Parking Positions	35				
2a. International Terminal	1				
3. Gates (Passenger Exits)	40				
3a. International Terminal	1				
Ticket Counters					
4. Linear Feet	1005				
4a. International Terminal	150				
5. Stations	40				
5a. International Terminal	1				
Baggage Claim					
6. Public Area (sq ft)	2091				
6a. International Terminal	100				
7. Equipment Types	10 carousels + 4 conveyor belts				
8. Equipment Capacity (bags/min)	200				
8a. International Terminal	60				
Security Inspection					
9. Parallel Passenger Servers	40				
9a. International Terminal					
10. Manual (Carry On Baggage)	26				
10a. International Terminal	1				
11. X-ray (Carry On Baggage)	14				
11a. International Terminal					

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1975		Forecast 1985		
	Terminal Area (000 sq ft)					
12.	Total Area	1000		1250		
12a.	International Terminal	13				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	3430				
14.	Annual (000)	12000				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	101				
16.	Apron Area (000 sq ft)	114				
17.	Aircraft Parking Positions	2				
18.	Truck Loading Docks	15				
19.	Cargo Loading Type ____ Manual	X Semi-Automatic		____ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	4300				
21.	Apron Area (000 sq ft)	43				
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1975				
	Automobile Parking Spaces					
1.	Total Public	4300				
1a.	Short Term	2550				
2.	Rental Car	800				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	3400				
	Curb Frontage					
4.	Lineal Feet	6900				
4a.	Enplaned	6900				
4b.	Deplaned					
5.	International Terminal Lineal Feet	164				
5a.	Enplaned	164				
5b.	Deplaned					
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	80 %				
9.	Taxi	15 %				
10.	Bus (Includes Hotel Shuttles, Limos)	5 %				
11.	Subway, Rail, Other	0 %				
	Percentage of People Entering Airport					
12.	Passengers	28 %				
13.	Visitors, Well Wishers, Greeters	57 %				
14.	Employees	15 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	.85				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/5,6/3	Runway 1R-19L	10000 ft	1985	5,000	1975
Add a runway parallel to the existing North-South runway on the other side of the terminal.					
3/12/3	Fourth Terminal	250000 sq ft	1985	50,000	1975
Add a fourth terminal similar to the existing three terminals; size is estimated.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Kansas City Municipal Code MKC

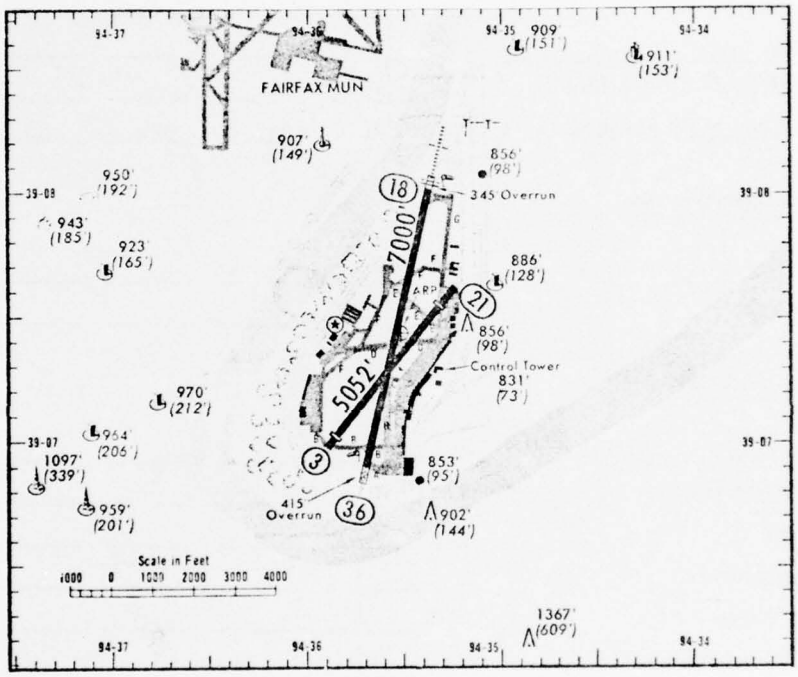
Hub Name Kansas City Master Plan Status None

Approximate Distance and Direction to Hub CBD 3 Miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 15 Miles Southeast

Name of That Airport Kansas City International Number of Commuters 2

Approximate Number of Employees at Airport 150 as of 1975



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1977	1978	1981	1986
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	10.2				
1a.	Air Taxi	7.5				
2.	General Aviation	147.1				
2a.	Itinerant	89.8				
2b.	Local	57.3				
3.	Military	0.9				
4.	Total Aircraft Operations	158.2				
5.	Total FAA 1974 Forecasts		213.0	223.0	265.0	380.0
	Aircraft Movements					
6.	Peak-Day	540				
7.	Peak-Hour	45				
	Based Aircraft					
8.	Fixed Wing	159				
8a.	Single Engine	80				
8b.	Jets	15				
8c.	Seaplane	1				
9.	Rotary Wing	0				
10.	Total Based Aircraft	159				

MKC

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	18	5750			ILS		
2.	36	5750			VFR		
3.	3	4602			VOR		
4.	21	4352			VOR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-707

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA, 0 Class A, 0 Class B, 10 Class C, 20 Class D, 70 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	18
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	Yes			

		Year: Actual 1975	Forecast			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	120				
23.	Maximum Hourly Capacity (IFR)	50				
24.	Practical Annual Capacity (000)	200				

MKC

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	486.0				
2. Hangar Area (000 sq ft)	551.3				
3. T-Hangar Parking Positions	65				
4. Conventional Hangars	5				
5. Terminal Building Area (sq ft)	261000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	300				
2. Access Road Capacity (vehicles/hr)	-				
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

MKC

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

None planned.

AIR CARRIER AIRPORT DATA LIST

Airport Name McCarran International Code LAS

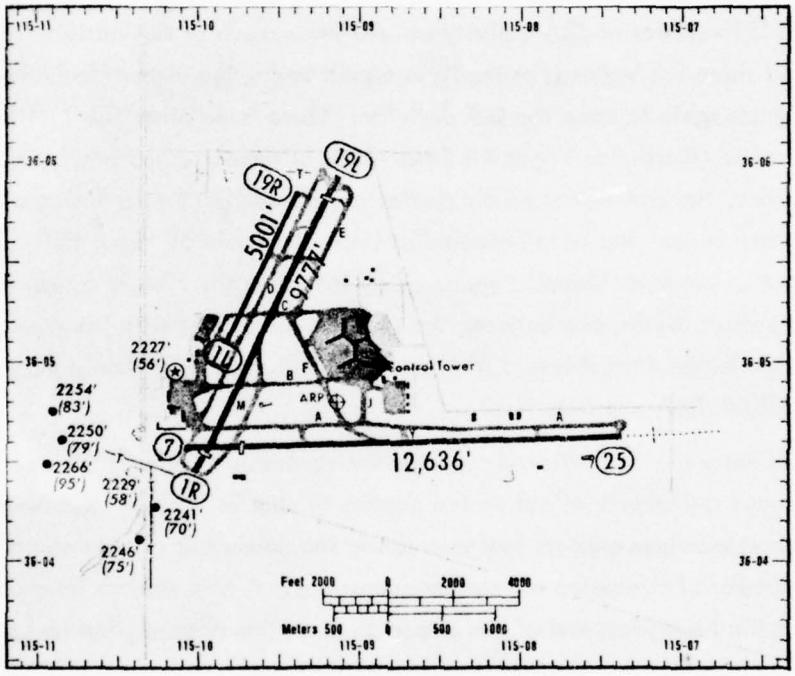
Hub Name Las Vegas Master Plan Status 1975 Draft

Approximate Distance and Direction to Hub CBD 5 miles North

Approximate Number of Employees at Airport 1674 as of 1975

Number of Air Carriers 7 Commuters 5

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter



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McCarran International Airport (LAS) is located only a few miles from the Las Vegas "strip". It is an airport with a very low percentage (25%) of connecting passengers. Thus, there is a greater than normal demand on terminal facilities. Also, the terminal entrance is a single level, which requires enplaning and deplaning passengers to share the same curb frontage. The terminal is a fingers design with two major

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consourses leading to a total of four aircraft gate pad areas. The terminal currently operates at near capacity and additional facilities will be required in the near future though specific plans have not yet been made.

There are currently three runways at LAS: two air carrier and one general aviation (GA). IFR weather occurs less than 0.3% of the time, so although runway 25 has full ILS, this is not required due to the lack of poor weather. The new Master Plan which is being reviewed by the FAA calls for three additional runways: an air carrier runway parallel to 7-25 and two general aviation runways south of the current airport boundary. The rationale for this addition is basically as follows. The current airport cannot handle the forecasted air traffic.* The airport could handle the activity through 1990 if there was no GA activity at LAS since much of GA activity is itinerate (tourists), and since Las Vegas is primarily a tourist town, the airport feels that it is economically desirable to keep the GA activity. There is no other GA facility to handle this traffic (North Las Vegas Air Terminal is at capacity and other sites are too far away). Thus, the concept of an air carrier airport and general aviation airport "within the same fence" has been proposed at LAS. It should be noted that these plans have not as yet been formally approved by the FAA; the FAA is concerned over a potential conflict in airspace between the GA and air carrier with the new runways. The information in the data sheets is from the Master Plan as is; it should be considered tentative until the FAA approves it.

Recently the CAB relaxed rules governing one trip inclusive tours. This is expected to have a dramatic effect on the number of charter flights to Las Vegas. In fact, the airport manager expects that eventually the number of charter operations may exceed the number of scheduled air carrier operations. A new charter terminal is envisioned at the Northwest end of the airport to meet this demand, but no specific plans have been set.

There are currently no scheduled international flights to Las Vegas. A new international terminal will be completed in 1976 to handle the start of international flights. Details of this terminal, where available, are included in the data sheet.

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* Note that Las Vegas has demonstrated that it is "recession proof" and unlike the rest of the country, air traffic has continued to increase substantially (from Master Plan).

There are virtually no all-cargo flights from Las Vegas (there were 66 all-cargo operations in 1974). There is ample capacity in the belly of passenger aircraft to handle the projected cargo demand through 1990.

Due to the fuel crisis, recession, etc., the FAA has in general lowered its aviation forecasts for nearly all airports including Las Vegas. However, there has not been a decline in air traffic at Las Vegas and the industry is still growing. Thus, the Master Plan forecast figures are considerably higher than the FAA's.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973	1975	1980	1985	1990
	Enplaned Passengers (000)					
1.	Air Carrier	2700	3556	5342	7510	10472
2.	Commuter (Including Air Taxi)	0	11	22	39	67
2a.	Air Taxi					
3.	Connecting	514	650	975	1353	1865
4.	Originating	2186	2917	4389	6196	8674
5.	Domestic	2700	3545	5228	7327	10192
6.	International	0	22	136	222	347
7.	Total Enplaned Passengers	2700	3567	5364	7549	10539
8.	Total FAA 1974 Forecasts			3480	4430	
	Aircraft Operations (000)					
9.	Air Carrier	127.9	117.3	150.3	184.4	228.2
10.	Commuter (Including Air Taxi)	2.9	12.2	14.8	17.8	21.7
10a.	Air Taxi	2.7	3.4	5.0	6.7	8.4
11.	General Aviation	115.9	151.6	192.9	243.1	304.4
11a.	Itinerant	91.5	111.8	142.3	179.3	224.5
11b.	Local	24.4	39.8	50.6	63.8	79.9
12.	Military	27.1	0	0	0	0
13.	Total Aircraft Operations	273.8	281.1	358.0	445.3	554.3
14.	Total FAA 1974 Forecasts			342	385	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft	72	79	98	117	141
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	2.2	3.1	5.4	9.5	15.8

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	1R	7503	Same		VFR
2.	19L	7503	Same		VFR
3.	1L	5000	Same		VFR
4.	19R	5000	Same		VFR
5.	7	12545	Same		VFR
6.	25	12545	Same		ILS-I
7.	7C	None	12030	1980-1990	VFR
8.	25C	None	12030	1980-1990	ILS-I
9.	7R	None	5000	1980	VFR
10.	25R	None	5000	1980	VFR
11.	1R'	None	6000	1980	VFR
12.	19R'	None	6000	1980	VFR
13.					
14.					

15. Fleet Mix (Percentage) 12 Class AA 3.8 Class A 24.7 Class B
4.3 Class C 22.2 Class D 33 Class E

		Actual		Forecast		
	Year:	1973	1975	1980	1985	1990
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	98.9	93.6			
17.	Maximum Hourly Capacity (IFR)	33	31			
18.	Minimum Hourly Capacity (IFR)	33	31			
19.	Practical Annual Capacity (000)	349	330			

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1973	1975	1980	1985	1990
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	37	37	43	43	43
1a. International Terminal	0	0	6	6	6
2. Wide Body Parking Positions	12	12	14	14	14
2a. International Terminal	0	0	2	2	2
3. Gates (Passenger Exits)	37	37	39	39	39
3a. International Terminal	0	0	2	2	2
Ticket Counters					
4. Linear Feet	571	571			
4a. International Terminal	0	0			
5. Stations	43	43			
5a. International Terminal	0	0			
Baggage Claim					
6. Public Area (sq ft)	18049	18049	22600	22600	22600
6a. International Terminal	0	0			
7. Equipment Types	6 carousels (2 more or equivalent added next 1-2 years)				
8. Equipment Capacity (bags/min)	360	360	480		
8a. International Terminal	0	0			
Security Inspection					
9. Parallel Passenger Servers	5	5	6	6	6
9a. International Terminal	0	0	1	1	1
10. Manual (Carry On Baggage)	2	2	3	3	3
10a. International Terminal	0	0	1	1	1
11. X-ray (Carry On Baggage)	4	4	4	4	4
11a. International Terminal	0	0	0	0	0

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1973	1975	1980	1985	1990
	Terminal Area (000 sq ft)					
12.	Total Area	215	215	245	245	245
12a.	International Terminal	0	0	30	30	30
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	860	860	960	960	960
14.	Annual (000)	2150	2150	2400	2400	2400
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	38.4	38.4	38.4	38.4	38.4
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions	12	12	12	12	12
18.	Truck Loading Docks	6	6	6	6	6
19.	Cargo Loading Type All Manual	0	Semi-Automatic	0	Fully Automatic	
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	418	418			
21.	Apron Area (000 sq ft)	3260	3260			
22.	Hangar Area (sq ft)	139.5	139.5			
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1973	1975	1980	1985	1990
	Automobile Parking Spaces					
1.	Total Public	809	809			
1a.	Short Term	17	17			
2.	Rental Car	1408	1408			
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	1800	1800			
4a.	Enplaned	900	900			
4b.	Deplaned	900	900			
5.	International Terminal Lineal Feet	0	0			
5a.	Enplaned	0	0			
5b.	Deplaned	0	0			
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	No	No	No

Passenger Modal Split

8.	Automobile (Includes Rental Car)	68 %
9.	Taxi	30 %
10.	Bus (Includes Hotel Shuttles, Limos)	2 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	%
13.	Visitors, Well Wishers, Greeters	%
14.	Employees	%

Vehicle Count

15. Number of Vehicles Per Passenger

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7,8/3	Air carrier runway		1980-1990	4000	1973
2/9,10/3	GA runway		1980	850	1973
2/11,12/3	GA runway		1980	1000	1973
3/various/3	Int. Terminal	30000 sq.ft 11000 pax/yr	1976	1000	1975
3/	Passenger terminal	Not yet planned		50/sq. ft	1973
4/3	Access road	Not yet planned		25/linear ft/ lane	1973

GENERAL AVIATION AIRPORT DATA LIST

Airport Name North Las Vegas Air Terminal Code VGT

Hub Name Las Vegas Master Plan Status None

Approximate Distance and Direction to Hub CBD 4 Miles North

Approximate Distance and Direction to Hub Air Carrier Airport 10 Miles Southeast

Name of That Airport McCarran International Number of Commuters 0

Approximate Number of Employees at Airport 60 as of 1975

North Las Vegas Air Terminal (VGT) is very conveniently located four miles north of the center of Las Vegas. It is owned by the Hughes Corporation. There are three fixed base operators on the field, and until recently Scenic Airways was located there. The facility features a motel, cafeteria and Hertz rental cars. At the present time there appear to be no firm plans for expanding the airport, and the data collected reflects primarily the current facilities and capacities. However, an FAA tower is being built and will be in operation by July 1, 1976, and some runway lighting may be added in the near future.

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The airport currently operates at what the manager feels is near capacity. The institution of terminal control area (TCA) procedures at McCarran has encouraged the use of VGT by more GA itinerants. Thus, the percentage of itinerant to local is expected to increase over the next few years. The total number of operations is expected to increase only slightly over the next several years. Occasionally a military aircraft will use the airport (helicopter or F-27) but this occurs very infrequently.

The manager feels he has lost some based aircraft due to the lack of shade aircraft parking. There is ample space for about 500 a/c tie downs, but only about 200 are used, and of these only 27 are shaded. Most of the land adjacent to the airport is owned by Hughes, so expansion is not a problem (though none is planned).

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1976	1977	1978	1979
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0			
1a.	Air Taxi	0	0			
2.	General Aviation	160	162			
2a.	Itinerant	51	55			
2b.	Local	109	107			
3.	Military	0				
4.	Total Aircraft Operations	160	162			
5.	Total FAA 1974 Forecasts		169	177	185	
	Aircraft Movements					
6.	Peak-Day	1400	1600	1600	1600	1600
7.	Peak-Hour	175	200	200	200	200
	Based Aircraft					
8.	Fixed Wing	180	180			
8a.	Single Engine	174	174			
8b.	Jets	0	0			
8c.	Seaplane	0	0			
9.	Rotary Wing	6	6			
10.	Total Based Aircraft	186	186			

VGT

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways

	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	4	3720	Same	-	VFR		
2.	22	3720	Same	-	VFR		
3.	7	5005	Same	-	VFR		
4.	25	5005	Same	-	VFR		
5.	12	3125	Same	-	VFR		
6.	30	3125	Same	-	VFR		
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-3 or F-27

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B _____ Class C _____ Class D _____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1976	1977	1978	1979
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	150	150			
23.	Maximum Hourly Capacity (IFR)	0	0			
24.	Practical Annual Capacity (000)	400	400			

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1976	1977	1978	1979
1. Parking Apron Area (000 sq ft)	650	650			
2. Hangar Area (000 sq ft)	85	85			
3. T-Hangar Parking Positions (shade parking)	30	30			
4. Conventional Hangars	2	2			
5. Terminal Building Area (sq ft)	1750	1750			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1976	1977	1978	1979
1. Automobile Parking Spaces	150	150			
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes	Yes			
4. Bus Access	Yes	No			
5. Rail, Subway, Other Access	No	No			

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

None Planned

AIR CARRIER AIRPORT DATA LIST

Airport Name Hollywood-Burbank Code BUR

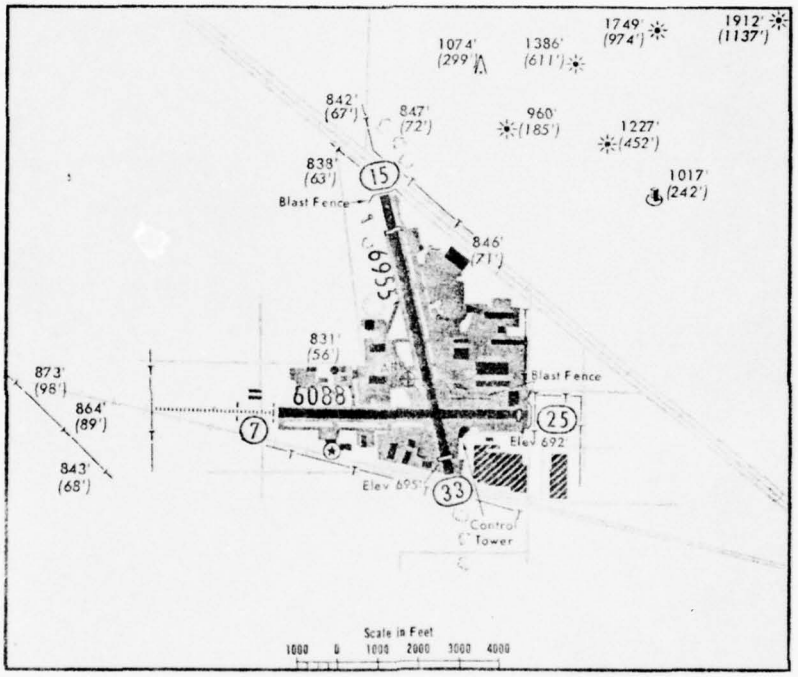
Hub Name Los Angeles Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 10 miles Southeast

Approximate Number of Employees at Airport 750 as of 1975

Number of Air Carriers 3 Commuters 1

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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Hollywood-Burbank Airport (BUR) is the nation's 48th busiest airport and has major impact on aviation in the Los Angeles hub. The situation at Burbank airport is currently at a very critical stage. It is owned by the Lockheed Corporation which desires to divest itself of the airport. At present there appear to be two alternatives for the future of the airport: continue operating as an airport under public ownership

(e.g., the city of Burbank) or cease operations as an airport. Since the future is very much uncertain, it was considered prudent not to use planning data contained in the July 1975 master plan. Although this plan is available to anyone through the public libraries, it is felt that to include data (other than current facilities) in an FAA report would tend to imply FAA acceptance or preference for that data. Consequently, the Burbank data sheet reflects current facilities only.

There are no international operations and no all cargo operations at Burbank of any significance. Lockheed Corporation maintains a factory at Burbank.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974				
	Enplaned Passengers (000)					
1.	Air Carrier	82.7				
2.	Commuter (Including Air Taxi)	Included above				
2a.	Air Taxi	Included above				
3.	Connecting	0				
4.	Originating	821.7				
5.	Domestic	821.7				
6.	International	0				
7.	Total Enplaned Passengers	821.7				
8.	Total FAA 1974 Forecasts					
	Aircraft Operations (000)					
9.	Air Carrier	28.9				
10.	Commuter (Including Air Taxi)					
10a.	Air Taxi	0.541				
11.	General Aviation	181.165				
11a.	Itinerant	144.93				
11b.	Local	36.23				
12.	Military	3.443				
13.	Total Aircraft Operations	214.049				
14.	Total FAA 1974 Forecasts					
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	504				
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	Negligible				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	7	6088			ILS-I
2.	25	5819			VFR
3.	15	6028			VFR
4.	33	6555			VFR
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) ____ Class AA 1.4 Class A 17.0 Class B
7.5 Class C 24.1 Class D+E ____ Class E

	Actual	Forecast			
Year:	1974				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	83				
17. Maximum Hourly Capacity (IFR)	60				
18. Minimum Hourly Capacity (IFR)	60				
19. Practical Annual Capacity (000)	236				

BUR

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	15				
1a. International Terminal	0				
2. Wide Body Parking Positions					
2a. International Terminal	0				
3. Gates (Passenger Exits)	7				
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet					
4a. International Terminal					
5. Stations	0				
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)					
6a. International Terminal					
7. Equipment Types	Manual				
8. Equipment Capacity (bags/min)	0				
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers					
9a. International Terminal					
10. Manual (Carry On Baggage)					
10a. International Terminal	0				
11. X-ray (Carry On Baggage)					
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1974				
	Terminal Area (000 sq ft)					
12.	Total Area	70.9				
12a.	International Terminal	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	283				
14.	Annual (000)	708				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	1.5				
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions					
18.	Truck Loading Docks					
19.	Cargo Loading Type All Manual ____ Semi-Automatic ____ Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0				
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)	719				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1974				
	Automobile Parking Spaces					
1.	Total Public	1360				
1a.	Short Term	0				
2.	Rental Car	105				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	45000				
	Curb Frontage					
4.	Lineal Feet	242				
4a.	Enplaned	121				
4b.	Deplaned	121				
5.	International Terminal Lineal Feet	0				
5a.	Enplaned	0				
5b.	Deplaned	0				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	97 %				
9.	Taxi	3 %				
10.	Bus (Includes Hotel Shuttles, Limos)	0 %				
11.	Subway, Rail, Other	0 %				
	Percentage of People Entering Airport					
12.	Passengers	1.68 %	persons enter per passenger; 46% pax came alone.			
13.	Visitors, Well Wishers, Greeters	%				
14.	Employees	%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	1.42	vehicles per pax			

BUR

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Hawthorne Municipal Code HHR

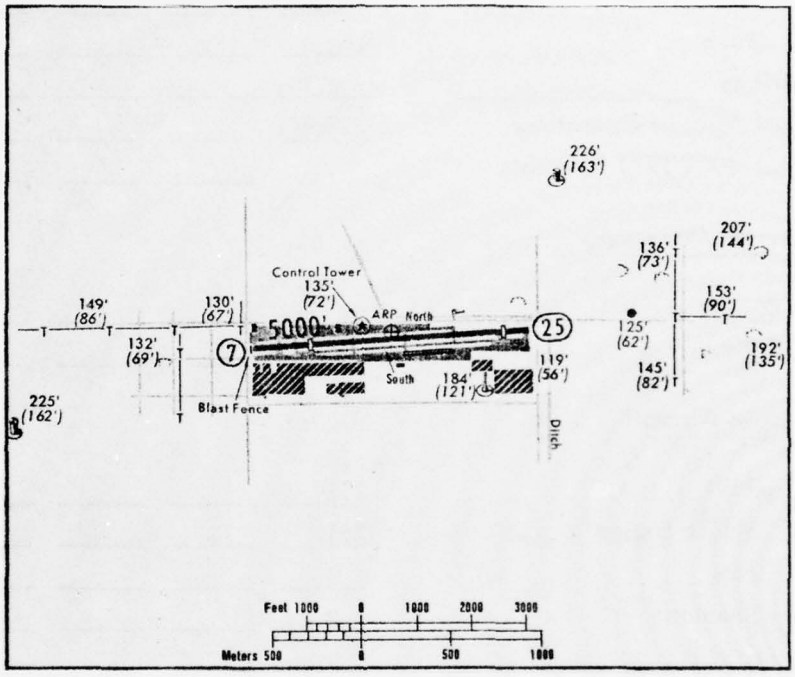
Hub Name Los Angeles Master Plan Status None

Approximate Distance and Direction to Hub CBD 18 miles North

Approximate Distance and Direction to Hub Air Carrier Airport 3 miles Northwest

Name of That Airport Los Angeles International (LAX) Number of Commuters 0

Approximate Number of Employees at Airport 100 as of 1975



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Hawthorne is very near the Los Angeles International Airport. It is a very busy airport operating at near capacity levels. It is surrounded by residential areas (some industry is just south of the airport). No expansion of the airport is anticipated in the future.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974				
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	3.5				
1a.	Air Taxi	3.5				
2.	General Aviation	225.0				
2a.	Itinerant	115.0				
2b.	Local	110.0				
3.	Military	0.1				
4.	Total Aircraft Operations	228.6				
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	286				
8a.	Single Engine	266				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	286				

HHR

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	7	3975	Same	-	VOR	ILS	1979
2.	25	4527	Same	-	VOR-A	VASI	1979
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 45,000 pound dual wheel

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 2 Class C; 98 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	0700-2300	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	7
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1974				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	100				
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)					

HHR

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Parking Apron Area (000 sq ft)	729				
2. Hangar Area (000 sq ft)	32				
3. T-Hangar Parking Positions	63				
4. Conventional Hangars	6				
5. Terminal Building Area (sq ft)	5000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Automobile Parking Spaces	205				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

None Planned. (Minor Clear Zone Work, ILS Installation Planned)

AIR CARRIER AIRPORT DATA LIST

Airport Name Los Angeles International Code LAX

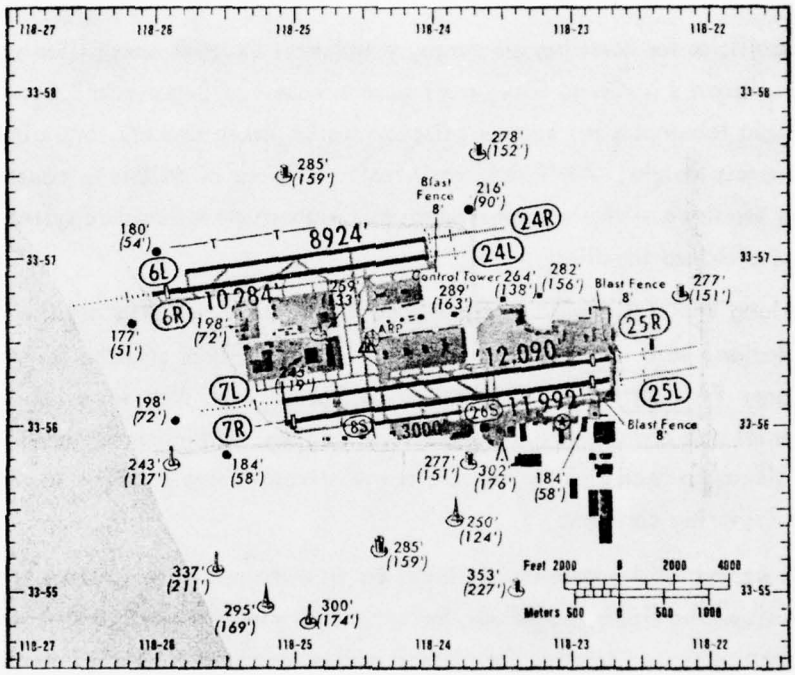
Hub Name Los Angeles Master Plan Status None

Approximate Distance and Direction to Hub CBD 15 miles Northeast

Approximate Number of Employees at Airport 37,000 as of 1972

Number of Air Carriers 36 Commuters 10

Terminal Type: ____ Linear ____ Pier X Satellite ____ Transporter



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The following airport description is excerpted from the 1974 Airport Layout Plan Report for Los Angeles International Airport.

Los Angeles International Airport is ranked as one of the nation's busiest fields in both passenger and traffic volume. Located at the end of Century Boulevard in the southwestern section of Los Angeles, the 3,500 acre facility provides air trans-

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portation services for more than 22 million passengers annually and handles as many as 2,000 aircraft takeoffs and landings on busy days.

Ticketing buildings front World Way and are connected to their individual satellites by underground channels through which passengers travel to the airplane gate positions. Intra-terminal tram service for connecting flights is offered from satellite to satellite as well as around World Way. Commuter airlines, helicopters, air taxis, local bus lines, limousines, U-drive cars, and taxicabs are available for transportation to and from the airport.

Facilities for handling air cargo, which now exceeds one billion pounds annually, are located in Cargo City, a 81-acre site east of Sepulveda Boulevard. Here airlines, freight terminals, air express offices, custom house brokers, and air freight forwarders process freight. Airlines have invested millions of dollars to construct and equip freight terminals with the most modern and elaborate mechanized systems to assure the rapid and efficient handling of freight.

Along Imperial Highway, the airport's southern boundary, are the U.S. Coast Guard Air Station, with two amphibious helicopters on 24-hour standby for search and rescue missions; FAA offices and Flight Service Station; the West Imperial Terminal for supplemental and charter airlines operations; a fixed base operator providing service and tie-down facilities for corporate and private aircraft, and many aviation-related manufacturing concerns.

Proposed field improvements include: new maintenance hangars to be built at the west end of the field; a taxiway for access between the north and south runways; additional ramp paving to provide for aircraft maneuvering and parking; reconstruction and reinforcement of the south runway system, including construction of new connecting taxiways, in-runway lighting, and strengthening of the Sepulveda Boulevard Underpass. Construction is scheduled so that LAX will have three runways and two Instrument Landing Systems in operation at all times. Future plans provide for two new passenger terminals to be located near the entrance to the airport and the west end of the terminal complex.

An in-depth economic impact study showed that in 1970 $3.3 billion, or $9 million daily, was pumped into the Southern California economy by LAX industry, which generated a total of 101,688 jobs. More than 37,000 people are employed directly by the industry at LAX, making it the largest employer in Los Angeles County

at a single location. Within 60 air miles of Los Angeles International Airport, there are 10 million people, half the population of California. There are also 57 airports in that semi-circle of land, plus two sea plane bases and one airport on Catalina Island.

There are five runways at Los Angeles International Airport. They are: Runways 25L/07R and 25R/07L on the south side of the airport; and Runways 24L/06R and 24R/06L on the north side of the airport. In addition, Runway 26/08 is available for general aviation aircraft weighing less than 12,000 pounds. This runway is used during daylight hours and VFR (Visual Flight Rules) weather only. It is located south of Runway 25L, west of the Sepulveda tunnel. For approaches during IFR (Instrument Flight Rules) conditions, Instrument Landing Systems (ILS) are installed on Runways 25L, 25R, 24R, 07L and 06R.

Military operations in the last ten years have shown a very gradual but steady decline. In 1973 the USAF relocated their facilities from the Airport. The only military operation remaining is the U.S. Coast Guard Rescue Station. The number of military operations is expected to drop to two thousand annual operations and remain at this level for the forseeable future.

General aviation activities at Los Angeles International Airport consist mainly of business related aircraft. In the past the level of general aviation operations has paralleled that with the air carrier operations reaching its peak of 106,938 operations in 1969 and declining to 51,828 operations in 1975.

Figures provided were total (enplaned and deplaned) for most categories (connecting/originating, etc.). However, the difference between enplaned and deplaned is less than 0.2 percent. Thus, 50 percent of the provided figures are taken and used in Part 1. LAX assumes a limit of 40 MAP with Palmdale in the system. Thus, the air carrier figures are constrained downward as commuter increases (starting 1985) to meet this limit. More recent figures (October 1975) supplied by LAX indicate 29.3, 34.8, 40.0 million annual passengers total in 1980, 1985, 1990, respectively. These are not included since breakdowns are not available.

Cargo data items: existing facilities are estimated based on discussions with airport planners. 1990 figures are estimates of proposed ultimate development of cargo facilities based on Los Angeles International Air Cargo Master Plan. Specific phasing and costs are not included in this plan. Details of the development have not been determined. Apron area is average of forecasted requirements in cargo master plan.

General aviation data items: there is no general aviation activity at LAX except a few business flights and users of Garrett or Butler Aviation (fixed base operators) for service or maintenance. There is no separate terminal or area specifically set aside for GA (except the FBOs).

As noted in Part 5, ticket building 1 is due to be constructed by 1980. No specific details have been determined for this building other than that it will have between 12 and 16 aircraft gates. It is expected to be similar to the other buildings, so for the purposes of the data sheet, the following data is assumed: Gates 14 (7 wide body), 4 carousels, 3 security inspection stations, 2 x-ray, 1 manual. Ticket counter lengths, baggage claim areas have been similarly extrapolated based on averages of existing buildings. Parking total includes 12,921 spaces of remote parking. Short term is curb parking limited to loading/unloading of passengers; based on 22'/space. No other major expansion is currently planned other than that noted in Part 5.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1980	1985	1990	1995
	Enplaned Passengers (000)					
1.	Air Carrier	11690	16511	19100	18800	18500
2.	Commuter (Including Air Taxi)	177	530	900	1200	1500
2a.	Air Taxi					
3.	Connecting	2534	2979	2800	2400	2200
4.	Originating	9333	14062	17200	17600	17800
5.	Domestic	10621	15541	18350	18350	18350
6.	International	1246	1500	1650	1650	1650
7.	Total Enplaned Passengers	11867	17041	20000	20000	20000
8.	Total FAA 1974 Forecasts		16268	17974		
	Aircraft Operations (000)					
9.	Air Carrier	340	345	401	391	396
10.	Commuter (Including Air Taxi)		86	107	109	110
10a.	Air Taxi	58	55			
11.	General Aviation	52	82			
11a.	Itinerant	52	82			
11b.	Local	0	0			
12.	Military U.S. Coast Guard	3	2	2	2	2
13.	Total Aircraft Operations	453	515	510	502	508
14.	Total FAA 1974 Forecasts		515	540		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft	135				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	397	1450	2700	4250	6650

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	6R	9953	Same	-	ILS-I
2.	24L	10284	Same	-	ILS-I
3.	6L	8924	10285	1980	ILS-I
4.	24R	8924	10285	1980	ILS-II
5.	7R	11992	Same	-	VFR
6.	25L	11401	Same	-	ILS-I
7.	7L	12090	Same	-	ILS-I
8.	25R	11490	Same	-	ILS-I
9.	8	3000	Same	-	VFR
10.	26	3000	Same	-	VFR
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 42 Class AA+A 20 Class A 36 Class B 20 Class C 2 Class D & E

		Actual	Forecast			
	Year:	1975	1980	1985	1990	1995
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	100				
17.	Maximum Hourly Capacity (IFR)	75				
18.	Minimum Hourly Capacity (IFR)	75				
19.	Practical Annual Capacity (000)	450				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1980	1985	1990	1995
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	82	102	102	102	102
1a. International Terminal	10	16	16	16	16
2. Wide Body Parking Positions	44	57	57	57	57
2a. International Terminal	7	13	13	13	13
3. Gates (Passenger Exits)	82	96	96	96	96
3a. International Terminal	10	10	10	10	10
Ticket Counters					
4. Linear Feet	1480	1713	1713	1713	1713
4a. International Terminal	439	439	439	439	439
5. Stations	243	260	260	260	260
5a. International Terminal	86	86	86	86	86
Baggage Claim					
6. Public Area (sq ft)	11300	13200	13200	13200	13200
6a. International Terminal	n/a	n/a	n/a	n/a	n/a
7. Equipment Types	25 carousels plus 1 conveyor				
8. Equipment Capacity (bags/min)	1560	1800	1800	1800	1800
8a. International Terminal	180	180	180	180	180
Security Inspection					
9. Parallel Passenger Servers	17	20	20	20	20
9a. International Terminal	1	1	1	1	1
10. Manual (Carry On Baggage)	4	5	5	5	5
10a. International Terminal	0	0	0	0	0
11. X-ray (Carry On Baggage)	13	15	15	15	15
11a. International Terminal	1	1	1	1	1

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1975	1980	1985	1990	1995
	Terminal Area (000 sq ft)					
12.	Total Area	1341	1565	1765	1765	1765
12a.	International Terminal	260	260	260	260	260
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	5190	6087	6760	6760	6760
14.	Annual (000)	14500	17500	20000	20000	20000
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	750	-	-	1600	-
16.	Apron Area (000 sq ft)	3350	4135	8270	12400	-
17.	Aircraft Parking Positions	30	-	-	60	-
18.	Truck Loading Docks	180	-	-	350	-
19.	Cargo Loading Type ____ Manual	50% Semi-Automatic		50% Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0	0	0	0	0
21.	Apron Area (000 sq ft)	0	0	0	0	0
22.	Hangar Area (sq ft)	0	0	0	0	0
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	____				
24.	Percentage of Passengers Who Use Curb Only	____				
25.	Average Length of Stay of Car in Parking Lot	____				
26.	Number of Checked Bags per Passenger	____				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1975	1980	1985	1990	1995
	Automobile Parking Spaces					
1.	Total Public	23593	28524	n/a	n/a	n/a
1a.	Short Term	399	n/a	n/a	n/a	n/a
2.	Rental Car	2042	n/a	n/a	n/a	n/a
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	5600	n/a	n/a	n/a	n/a
	Curb Frontage					
4.	Lineal Feet	8080	9350	9350	9350	9350
4a.	Enplaned	4040	4675	4675	4675	4675
4b.	Deplaned	4040	4675	4675	4675	4675
5.	International Terminal Lineal Feet	60	60	60	60	60
5a.	Enplaned	30	30	30	30	30
5b.	Deplaned	30	30	30	30	30
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	No	No	No

Passenger Modal Split

8.	Automobile (Includes Rental Car)	74.95 %
9.	Taxi	6.89 %
10.	Bus (Includes Hotel Shuttles, Limos)	14.34 %
11.	Subway, Rail, Other	3.82 %

Percentage of People Entering Airport

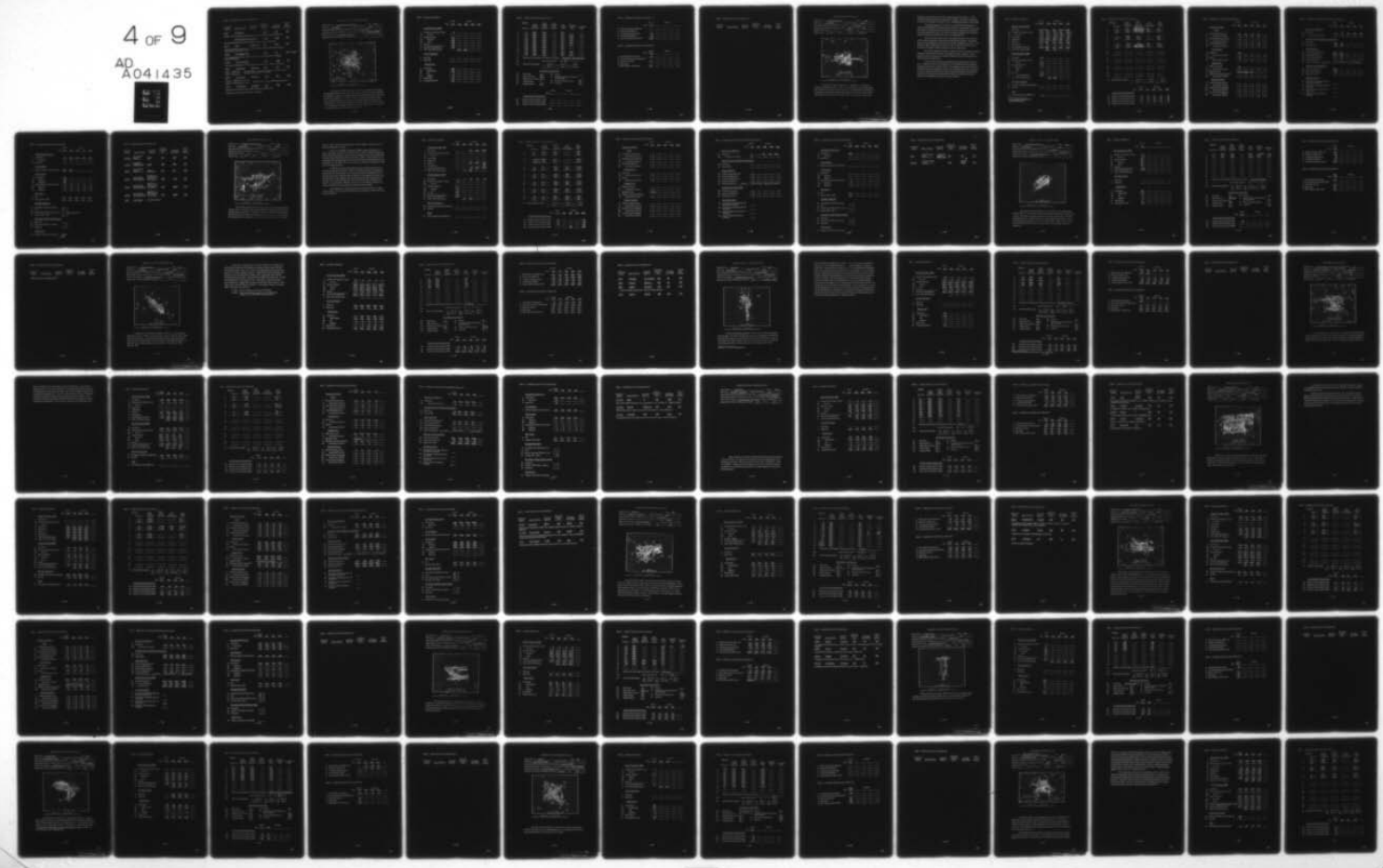
12.	Passengers	____ %
13.	Visitors, Well Wishers, Greeters	____ %
14.	Employees	____ %

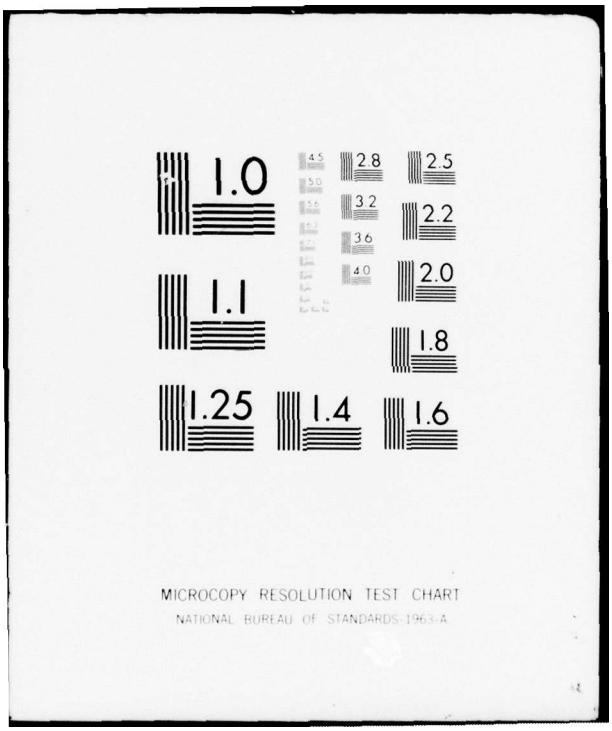
Vehicle Count

15.	Number of Vehicles Per Passenger	0.54

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA
UNCLASSIFIED FAA-AVP-77-26 NL

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AD A041435




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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate	
3/1/2	A/C Parking		1/78	900	1976	
Construct 4 a/c parking positions between taxiways 45 and 47 (wide body positions).						
	Reinforce Sepulveda Underpass.		11/79	15139	1976	
Sepulveda Underpass Reinforcing (strengthen south runways for jumbo jets).						
3/1/2	Apron	58,700 sq yds	1/79	2219	1975	
Apron (International parking apron N of 25R, E Taxiway 75) 6 wide bodies; Taxiway K extension 450' and access to apron.						
3/11/2	WIT Baggage Claim		11/75	216	1975	complete
WIT - Baggage Claim Terminal (charter) 625' x 125' building (130K) and baggage conveyor belt (86K).						
3/12/2	Terminal Building 1		7/80	61468	1976	
New terminal (Building 1) 12-16 a/c gates; cost includes site, roadway, utility work.						
4/1/2	Auto Parking	5300 spaces	2/76	1617	1975	
Phase I: 2400 spaces Phase II: 2900 spaces	East Westchester auto parking (replaces Lot A, which will be eliminated when Terminal 1 is started).					
4/1/2	Auto Parking	2668 spaces	12/78	800	1976	
Phase II: 1408 spaces; 11.3 acres Phase III: 1260 spaces; 8.1 acres	VSP parking lot: current 3732 spaces, 26.2 acres.					
4/1/2	Auto Parking	2263 spaces	8/79	6587	1976	
Parking Structure D 3 level 660' x 280', 1500 spaces (opposite TB 1).						
Parking Structure C 3 level 395' x 235', 763 spaces.						

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Long Beach/Daugherty Field Code LGB

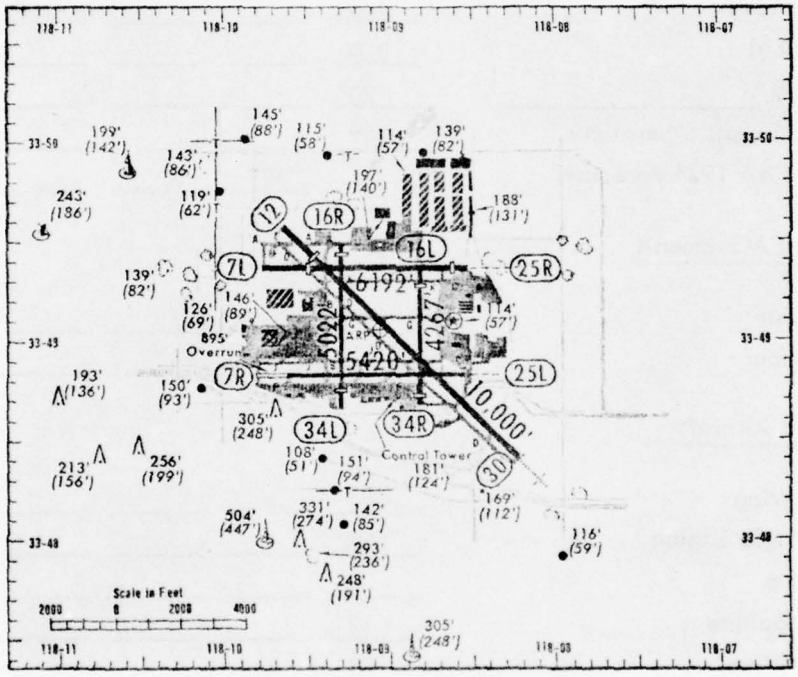
Hub Name Los Angeles Master Plan Status None

Approximate Distance and Direction to Hub CBD 20 miles North

Approximate Distance and Direction to Hub Air Carrier Airport 20 miles Southeast

Name of That Airport Los Angeles International Number of Commuters 4

Approximate Number of Employees at Airport _____ as of _____



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The City of Long Beach will continue to upgrade, modernize and improve the Long Beach Airport in ways which benefit general aviation, air carriers and fixed base operators; however, all proposed improvements will be examined for a high level of community acceptance. No airport expansion is proposed over the next several years. McDonnell Douglas maintains an aircraft factory area at the airport which services DC-10s. The FAA has selected 25L-7R for installation of an ILS and ALS; the City of Long Beach would prefer that 25R-7L have these systems instead. At present it is not clear which runway will receive these systems.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1975	1980	1985	1990
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	10				
1a.	Air Taxi					
2.	General Aviation	519				
2a.	Itinerant	260				
2b.	Local	259				
3.	Military	20				
4.	Total Aircraft Operations	549				
5.	Total FAA 1974 Forecasts		735	825		
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	683				
8a.	Single Engine	532				
8b.	Jets	0				
8c.	Seaplane	12				
9.	Rotary Wing	70				
10.	Total Based Aircraft	765				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	12	8650	Same	-	LOC		
2.	30	10000	Same	-	ILS	Same	-
3.	7L	4887	Same	-	VFR	Same	-
4.	25R	5661	Same	-	VFR	Same	-
5.	7R	5420	Same	-	VFR	Same	-
6.	25L	5420	Same	-	VFR	ILS	
7.	16L	3842	Same	-	VFR		
8.	34R	3965	Same	-	VFR		
9.	16R	4140	Same	-	VFR	Same	-
10.	34L	4460	Same	-	VFR	Same	-

11. Heaviest Aircraft Capable of Using Primary Runway 320,000 lbs. dual tandem gear

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B _____ Class C _____ Class D _____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	
14.	Hours of Service	24 hrs	19.	Automatic Terminal Information Service (ATIS)	
15.	Flight Service Station	No	20.	Primary Instrument Runway	30
16.	Vortac Station		21.	Joint Use	Yes
17.	Weather Station	Yes			

		Actual		Forecast		
	Year:					
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)					

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	68				
4. Conventional Hangars	25				
5. Terminal Building Area (sq ft)	11304				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Automobile Parking Spaces	637				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access					
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

AIR CARRIER AIRPORT DATA LIST

Airport Name Ontario International Code ONT

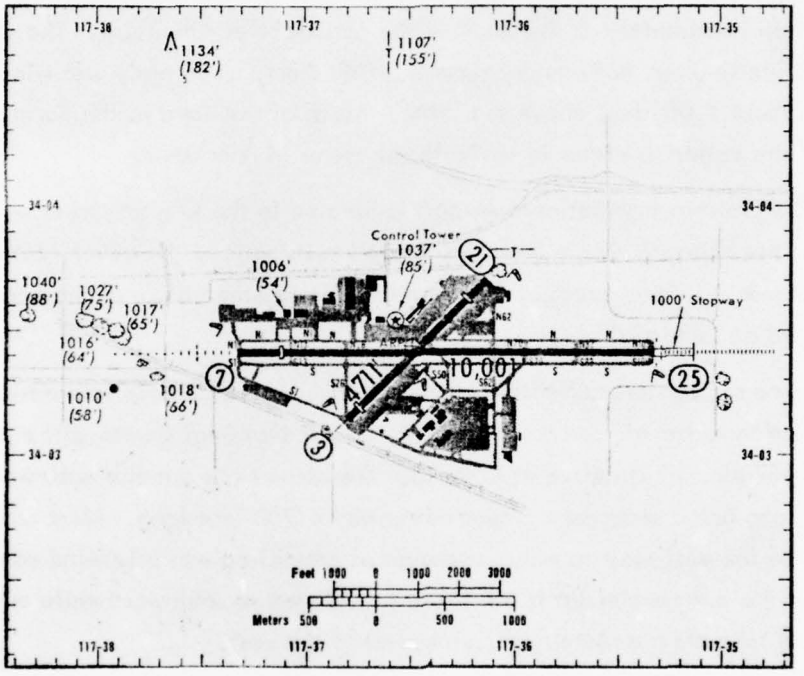
Hub Name Los Angeles Master Plan Status None

Approximate Distance and Direction to Hub CBD 40 miles West

Approximate Number of Employees at Airport 2226 as of 1970

Number of Air Carriers 9 Commuters 3

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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The Ontario International Airport is an integral part of the Southern California transportation system. In 1967, it was acquired by the Los Angles Department of Airports to provide service for the growing air transportation requirements of the eastern section of the Los Angeles Metropolitan area. As such, Ontario International Airport functions as a major satellite airport. It is located in a market area

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expected to consist of four to five million people during the next decade. In 1975, 1,289,247 passengers enplaned and deplaned at the airport. This number is expected by the City of Los Angeles to increase to about 12,300,000 passengers per year by 1985.

The proposed expansion of the airport to accommodate the demand for air travel with wide-bodied aircraft requires the construction of a replacement runway, plus the extension of the existing runway 2,200 feet to the east, together with the construction of new associated taxiways. The EIS for this project was approved by the Board of Airport Commissioners and submitted to the FAA in September 1975.

The Ontario International Airport is physically located on what is known as the Chino Plain immediately to the south of the San Gabriel mountains. The weather pattern is basically long, hot and dry summers with short, moderately wet winters. The elevation is about 1,000 feet above sea level. Much of the land to the north, east, and south of the airport is either in agricultural use or in open space.

The Ontario International Airport is located in the City of Ontario, California. Historically, the economy of the area was agragrian in nature. However, with the population increase in most areas of Southern California, the nature of the economy is shifting toward an industrial base.

Nine air carriers currently are operating from the Ontario International Airport. In addition to the air carrier operations, an Air National Guard unit equipped with Cessna 237 aircraft is active at Ontario. The airport has a major east-west runway 10,000 feet long and a secondary crosswind runway 4,750 feet long. Most commercial air carriers use the east-west runway. Because of prevailing westerly wind conditions, 96 percent of the commercial jet takeoffs are to the west or southwest while only 4 percent of the takeoffs are routed over vineyards to the east.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973	1980	1985	1990	1995
	Enplaned Passengers (000)					
1.	Air Carrier	512.3	3161	5326	7101.2	9093
2.	Commuter (Including Air Taxi)	68.0	419.7	707.2	943	1207.5
2a.	Air Taxi*	11.0	69.3	116.8	155.8	199.5
3.	Connecting	29.5	182.5	307.5	410	525
4.	Originating	561.8	3467.5	5842.5	7790	9975
5.	Domestic	591.3	3650	6150	8200	10500
6.	International	0	0	0	0	0
7.	Total Enplaned Passengers	591.3	3650	6150	8200	10500
8.	Total FAA 1974 Forecasts		437	754		
	Aircraft Operations (000)					
9.	Air Carrier	34.5				
10.	Commuter (Including Air Taxi)					
10a.	Air Taxi	20.2				
11.	General Aviation**	77.6				
11a.	Itinerant					
11b.	Local					
12.	Military	13.2				
13.	Total Aircraft Operations	145.7				
14.	Total FAA 1974 Forecasts		182	205		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	1.5				

*Non-scheduled and alternates.
**Includes 200 alternate.

ONT

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	7L	8973	12200 (takeoff) 10200 (landing)	1980	ILS-I
2.	25R	10000	12200 (takeoff) 11700 (landing)	1980	ILS-I
3.	3	4350	Same	--	VFR
4.	21	4150	Same	--	VFR
5.	7R	None	10200	1979	ILS-I
6.	25L	None	10200 (takeoff) 9700 (landing)	1979	ILS-II
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

		Actual	Forecast			
	Year:	1973	1980	1985	1990	2000
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	35	56	56	56	56
17.	Maximum Hourly Capacity (IFR)	25	48	48	48	48
18.	Minimum Hourly Capacity (IFR)	25	48	48	48	48
19.	Practical Annual Capacity (000)					

ONT

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1973	1980	1985	1990	1995
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	100	105	110	120	
1a. International Terminal	0	0	0	0	0
2. Wide Body Parking Positions	0				
2a. International Terminal	0	0	0	0	0
3. Gates (Passenger Exits)	9	14	19	29	
3a. International Terminal	0	0	0	0	0
Ticket Counters					
4. Linear Feet	200				
4a. International Terminal	0	0	0	0	0
5. Stations	30				
5a. International Terminal	0	0	0	0	0
Baggage Claim					
6. Public Area (sq ft)	500				
6a. International Terminal	0	0	0	0	0
7. Equipment Types	Manual baggage claim				
8. Equipment Capacity (bags/min)					
8a. International Terminal	0	0	0	0	0
Security Inspection					
9. Parallel Passenger Servers					
9a. International Terminal	0	0	0	0	0
10. Manual (Carry On Baggage)					
10a. International Terminal	0	0	0	0	0
11. X-ray (Carry On Baggage)					
11a. International Terminal	0	0	0	0	0

ONT

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1973	1980	1985	1990	1995
	Terminal Area (000 sq ft)					
12.	Total Area	50	160	260	460	460
12a.	International Terminal	0	0	0	0	0
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	200	640			
14.	Annual (000)	500	1600			
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	28.8	28.8			
16.	Apron Area (000 sq ft)	156.3	156.3			
17.	Aircraft Parking Positions	2	2			
18.	Truck Loading Docks					
19.	Cargo Loading Type	X Manual	___ Semi-Automatic	___ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	10000				
21.	Apron Area (000 sq ft)	200				
22.	Hangar Area (sq ft)					

	Miscellaneous Data	
23.	Percentage of Passengers Who Use Curb Then Parking Lot	
24.	Percentage of Passengers Who Use Curb Only	
25.	Average Length of Stay of Car in Parking Lot	
26.	Number of Checked Bags per Passenger	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1973	1980	1985	1990	1995
	Automobile Parking Spaces					
1.	Total Public	1735	3235	4735	7735	7735
1a.	Short Term					
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2400	2400			
	Curb Frontage					
4.	Lineal Feet	700				
4a.	Enplaned	500				
4b.	Deplaned	200				
5.	International Terminal Lineal Feet	0	0	0	0	0
5a.	Enplaned	0	0	0	0	0
5b.	Deplaned	0	0	0	0	0
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	No	No	No

Passenger Modal Split

8.	Automobile (Includes Rental Car)	96 %
9.	Taxi	4 %
10.	Bus (Includes Hotel Shuttles, Limos)	- %(included above)
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	%
13.	Visitors, Well Wishers, Greeters	%
14.	Employees	%

Vehicle Count

15.	Number of Vehicles Per Passenger	0.660

ONT

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/5,6/3	New Parallel Runway	10200'	1979	9485	1976
2/1,2/3	Strengthen, Lengthened 25L	+2200'	1980	4208	1976
3/12/2	Terminal Bldg. Addition	10000 sq. ft	1977	782	1976
3/12/2	New Terminal Building-Phase I	100,000 sq. ft 1500 auto park 5 a/c gates	1980	11925	1976
3/12/3	New Terminal Building-Phase II	100,000 sq. ft 1500 auto park 5 a/c gates	1983	14200	1976
3/12/4	New Terminal Building-Phase III	200,000 sq. ft 3000 auto park 10 a/c gates	1987	38000	1976
4/1/2	Auto Parking	See Projects Above			

ONT

AIR CARRIER AIRPORT DATA LIST

Airport Name Palmdale Air Force Plant 42 Code PMD

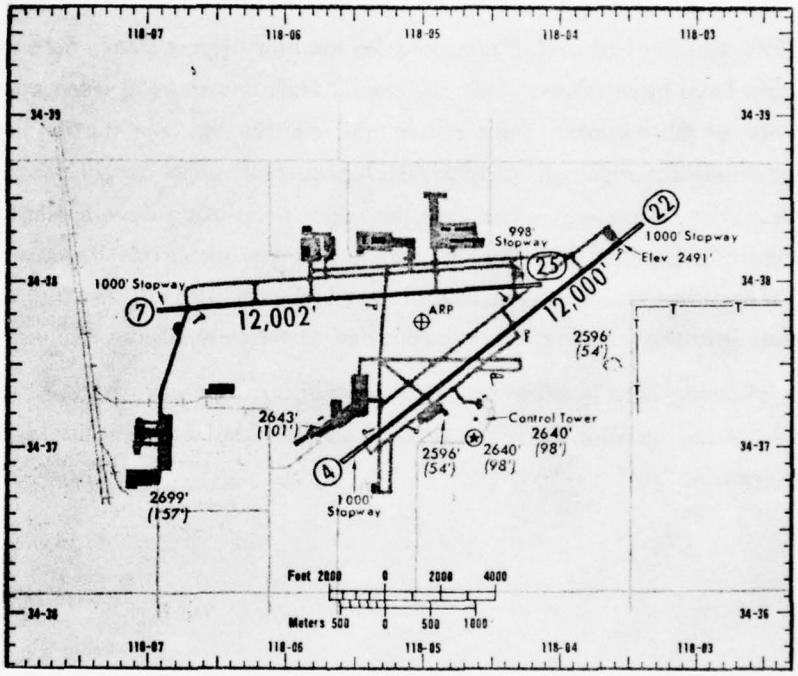
Hub Name Los Angeles Master Plan Status None

Approximate Distance and Direction to Hub CBD 61 miles South

Approximate Number of Employees at Airport _____ as of _____

Number of Air Carriers 0 Commuters 1

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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The Palmdale airport facilities currently consist of a small terminal and two 12,000' runways. It is an Air Force production/flight test installation and is used with the permission of the Air Force. There is very little civil activity at Palmdale today; there are two commuter flights to Los Angeles International each day. The only expansion planned here is the construction of an aircraft parking apron to hold 5 wide body

aircraft. Traffic to LAX may be diverted here if LAX is fogged in (though usually this is diverted to Burbank or Ontario).

The city of Los Angeles is acquiring 17,500 acres east of and adjacent to the Air Force plant. A major new air carrier airport is planned to handle the forecasted traffic in the Los Angeles hub. Details of the new airport have not yet been determined, but plans include six parallel runways (4 air carrier, 2 STOL). Forecasts by the City of Los Angeles indicate that Palmdale will handle over 30 million passengers (enplaned and deplaned) by the year 2000. The first two runways are scheduled for completion by 1985, but this now seems optimistic.

In 1974 the city had an EIS prepared for the new airport from which most of the following data have been taken. This EIS is still draft and there is much opposition to the construction of this airport. The airlines indicate that the combination of high altitude and hot desert conditions leads to inefficient aircraft operation and longer take-off requirements. Also, opponents claim that the major population developments have been East and South of Los Angeles, thus the merits of a new airport 61 freeway miles North of L.A. is questioned. However, the city of L.A. has already invested tens of millions of dollars into the area and seems committed to the new airport.

The following data is taken primarily from discussions with the L.A. Department of Airports. Also, existing facilities have been estimated from airport layout plans, and FAA 5010 forms.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	2000
	Enplaned Passengers (000)					
1.	Air Carrier			350	2000	10300
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic			350	2000	9300
6.	International					1000
7.	Total Enplaned Passengers			350	2000	10300
8.	Total FAA 1974 Forecasts		13	2423		
	Aircraft Operations (000)					
9.	Air Carrier	0	0	123	164	310
10.	Commuter (Including Air Taxi)	1.4				
10a.	Air Taxi					
11.	General Aviation	47.1				
11a.	Itinerant	17.4				
11b.	Local	29.7				
12.	Military	64.3				
13.	Total Aircraft Operations	112.8				
14.	Total FAA 1974 Forecasts		167	242		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)					

PMD

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4	12019	Same	-	VFR
2.	22	12019	Same	-	VFR
3.	5(7 Now)	12000	Same	-	ILS-I
4.	23(25 Now)	12000	Same	-	ILS-I
5.	6L	New	13000	1995	ILS-II
6.	24R	New	13000	1995	ILS-II
7.	6R	New	13000	1985	ILS-II
8.	24L	New	13000	1985	ILS-II
9.	7L	New	13000	1985	ILS-II
10.	24R	New	13000	1985	ILS-II
11.	7R	New	13000	1995	ILS-II
12.	24L	New	13000	1995	ILS-II
13.	8R	New	4000	1995	VFR
14.	26L	New	4000	1995	VFR

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

		Actual	Forecast			
	Year:	1974	1980	1985	1990	2000
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	35				170
17.	Maximum Hourly Capacity (IFR)	25				100
18.	Minimum Hourly Capacity (IFR)	25				100
19.	Practical Annual Capacity (000)			320		1000

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	2000
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	3	8			
1a. International Terminal	0				
2. Wide Body Parking Positions	3	8			
2a. International Terminal	0				
3. Gates (Passenger Exits)	3	3			
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet					
4a. International Terminal	0				
5. Stations					
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)					
6a. International Terminal	0				
7. Equipment Types	Manual				
8. Equipment Capacity (bags/min)					
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers					
9a. International Terminal	0				
10. Manual (Carry On Baggage)					
10a. International Terminal	0				
11. X-ray (Carry On Baggage)					
11a. International Terminal	0				

PMD

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1974	1980	1985	1990	2000
	Terminal Area (000 sq ft)					
12.	Total Area	5		380	1100	2200
12a.	International Terminal	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour					
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	0				
16.	Apron Area (000 sq ft)	0				
17.	Aircraft Parking Positions	0				
18.	Truck Loading Docks	0				
19.	Cargo Loading Type ____ Manual ____ Semi-Automatic All Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0				
21.	Apron Area (000 sq ft)	0				
22.	Hangar Area (sq ft)	0				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1974	1980	1985	1990	2000
	Automobile Parking Spaces					
1.	Total Public	1000				
1a.	Short Term					
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet					
4a.	Enplaned					
4b.	Deplaned					
5.	International Terminal Lineal Feet	0				
5a.	Enplaned	0				
5b.	Deplaned	0				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	____%				
9.	Taxi	____%				
10.	Bus (Includes Hotel Shuttles, Limos)	____%				
11.	Subway, Rail, Other	____%				
	Percentage of People Entering Airport					
12.	Passengers	____%				
13.	Visitors, Well Wishers, Greeters	____%				
14.	Employees	____%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

PMD

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/1/2	Aircraft Parking Apron	5 Wide Body Aircraft 500' x 1200'	1976	1533	1975
2/5,14/3	Six New Parallel Runways		1995	700-900 Million	1970

PMD

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Santa Monica Municipal Code SMO

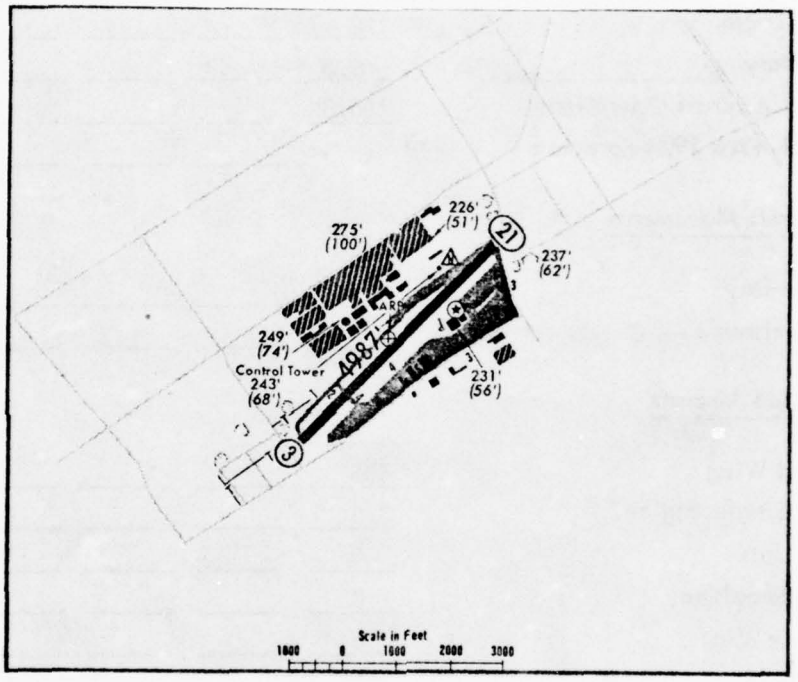
Hub Name Los Angeles Master Plan Status None

Approximate Distance and Direction to Hub CBD 15 miles East

Approximate Distance and Direction to Hub Air Carrier Airport 5 miles South

Name of That Airport Los Angeles International Number of Commuters 0

Approximate Number of Employees at Airport _____ as of _____



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Santa Monica Municipal Airport is a few miles North of Los Angeles International (LAX). It is the site of a Douglas Aircraft Company factory which made DC-3, 6, and 7. The company no longer uses these facilities for manufacturing. This airport is also operating near capacity and due to the large residential areas around, it is unlikely that any major expansion will occur (none is planned). Minor runway improvements will be made within the next five years (VASI, runway lighting, taxiway improvements).

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973				
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.3				
1a.	Air Taxi	0.3				
2.	General Aviation	256				
2a.	Itinerant	128				
2b.	Local	128				
3.	Military	0.5				
4.	Total Aircraft Operations	256.8				
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	435				
8a.	Single Engine	375				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	435				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	3	4987	Same	-	VOR	VASI, REIL	1979
2.	21	4987	Same	-	VOR-A	Same	1979
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway 105,000 Dual Tandem

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 1 Class B 2 Class C 97 Class D+E Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	0700-2300	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	3
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	No			

	Actual	Forecast			
Year:	1973				
Airside Capacities (Operations)					
22. Maximum Hourly Capacity (VFR)	100				
23. Maximum Hourly Capacity (IFR)					
24. Practical Annual Capacity (000)					

SMO

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1973				
1. Parking Apron Area (000 sq ft)	1600				
2. Hangar Area (000 sq ft)	108				
3. T-Hangar Parking Positions	40				
4. Conventional Hangars	10				
5. Terminal Building Area (sq ft)	1500				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1973				
1. Automobile Parking Spaces	100				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
(Minor taxiway, runway lighting only)					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Torrance Municipal Code TOA

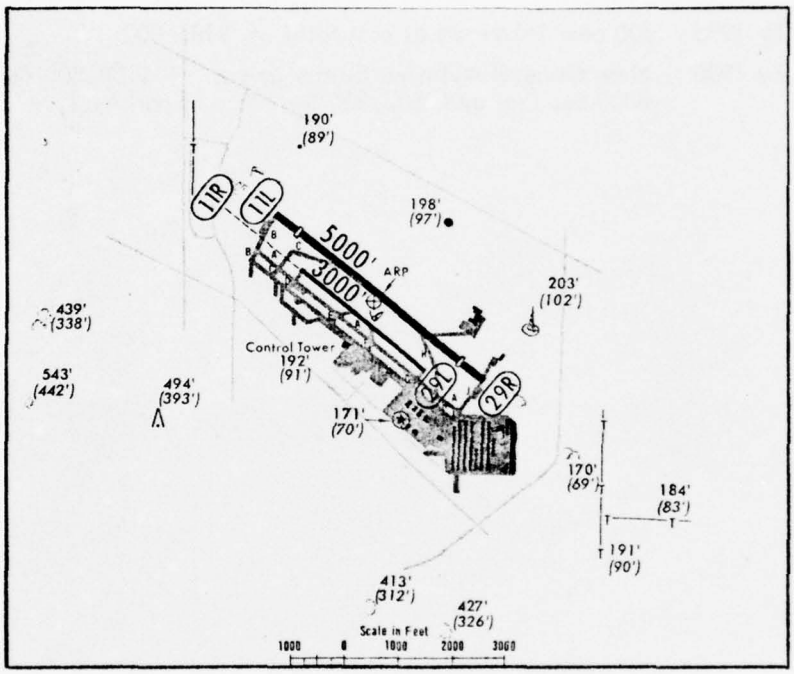
Hub Name Los Angeles Master Plan Status 1973

Approximate Distance and Direction to Hub CBD 3 miles North

Approximate Distance and Direction to Hub Air Carrier Airport 15 miles North

Name of That Airport Los Angeles International Number of Commuters 0

Approximate Number of Employees at Airport _____ as of _____



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A master plan was completed in December 1973, but it is not yet formally approved by the town. There is no commuter service, and the community will not allow the start of such service. The Torrance Master Plan calls for a 3 phase development effort: Phase I 1974-1980, Phase II 1981-1985, Phase III 1986-2000 and beyond. For these data sheets, information has been used as Phase I - 1980, Phase II - 1985, Phase III - 1990.

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Notes on data included herein: Peak day movements are assumed to be 0.5% of annual, peak hour 10% of peak day (according to master plan). PHOCAP estimated from capacity study in MP. These were not forecasted and are assumed constant, since no runway expansion is planned. PANCAP taken from MP forecast which assumed no commuter and improved existing airfield. Part 3 1980 aircraft parking estimated from Phase I projects. Total for Phase III (1990) is from master plan. Existing terminal building size is estimated from ALP. 1980 figure is new general aviation center building size. Part 4 1980 auto parking estimated from Phase I projects. Total 1985 is final number after Phase II completion. Access roadway capacity is estimated. Phase I improvements also estimated.

By 1985	100 new T-hangars at cost total of $185,000
By 1980	New General Aviation Center at cost of $100,000 for 4000 sq. feet and $53,300 for 100 cars parking.

TOA

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1972	1975	1980	1985	1990
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	2.1	0	0	0	0
1a.	Air Taxi	2.1				
2.	General Aviation	356.6	473.4	619.1	711.1	807.4
2a.	Itinerant	145.6	170.0	216.8	244.9	274.1
2b.	Local	211.0	303.4	402.3	466.2	533.3
3.	Military	1.5	2.0	2.0	2.0	2.0
4.	Total Aircraft Operations	360.2	475.4	621.1	713.1	809.4
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day	1780	2370	3095	3555	4037
7.	Peak-Hour	178	237	310	356	404
	Based Aircraft					
8.	Fixed Wing	761	844	945	1066	1193
8a.	Single Engine	723	787	848	950	1053
8b.	Jets	0	0	0	0	0
8c.	Seaplane	2	0	0	0	0
9.	Rotary Wing	1	9	20	25	30
10.	Total Based Aircraft	762	853	965	1091	1223

TOA

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	11L	5000			VFR		
2.	29R	5000			VFR		
3.	11R	3000			VFR		
4.	29L	3000			VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 30,000 lbs.

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 0.4 Class C; 99.6 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service		19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	11L/29R
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station				

		Actual	Forecast			
	Year:	1972	1975	1980	1985	1990
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	170	170	170	170	170
23.	Maximum Hourly Capacity (IFR)	30	30	30	30	30
24.	Practical Annual Capacity (000)	448.8	459.2	460.5	461.5	461.7

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1975	1980	1985	1990
1. Parking Apron Area (000 sq ft)	875	875	2500	2500	3240
2. Hangar Area (000 sq ft)	710	710	710	1030	1030
3. T-Hangar Parking Positions	200	200	200	300	300
4. Conventional Hangars	21	21	21	21	21
5. Terminal Building Area (sq ft)	2000	2000	6000	6000	6000

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1975	1980	1985	1990
1. Automobile Parking Spaces	144	144	850	1100	1100
2. Access Road Capacity (vehicles/hr)	600	600	1100	1100	1100
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	Yes	Yes	Yes	Yes	Yes
5. Rail, Subway, Other Access	No	No	No	No	No

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/3/4	T-Hangars	100 T-hangars	1985	185	1972
3/5/3	Terminal	4000 sq. ft	1980	100	1972
4/2/3	Roadway	500 veh/hr	1980	420	1972
1.4 miles of roadway improvement; capacity change estimated.					
4/1/3	Parking	100 cars	1980	53.3	1973

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Van Nuys Code VNY

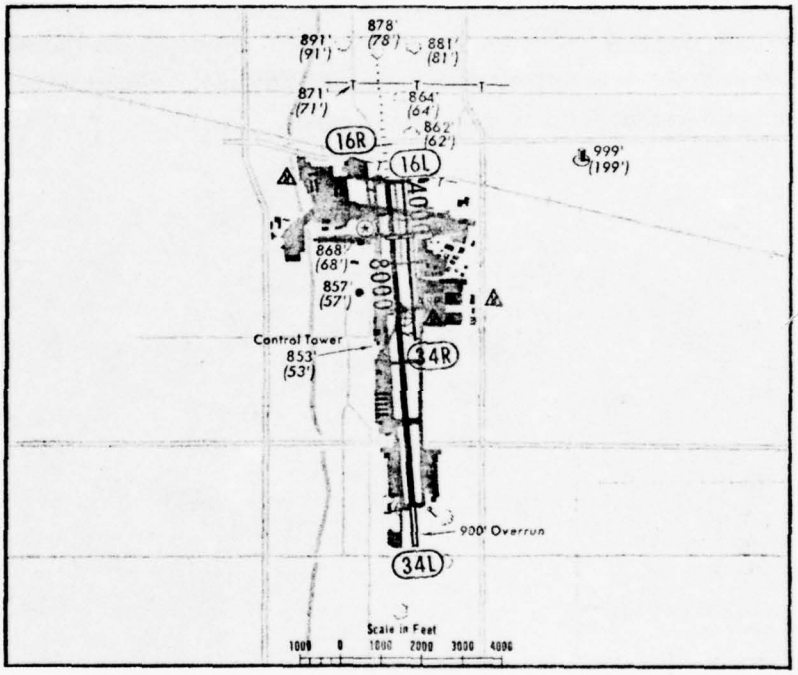
Hub Name Los Angeles Master Plan Status None

Approximate Distance and Direction to Hub CBD 18 miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 20 miles South

Name of That Airport Los Angeles International Number of Commuters 0

Approximate Number of Employees at Airport 38* as of October 1, 1976



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Van Nuys Airport began operation in 1927 as the privately operated Metropolitan Airport. The airport was acquired by the City of Los Angeles in 1949 from the War Assets Administration. A condition of the transfer was the provision of a base for the California Air National Guard. The Van Nuys Airport is located in the center of the San Fernando Valley, 18 miles northwest of the Los Angeles Civic Center.

*Department of Airport Employees only.

Van Nuys Airport has a shape like a multiarmed cross. The runways and approaches form the axis, with the FBO and other aircraft related development occupying the various arms. The airfield has two parallel runways. No scheduled airline operations occur or are expected to occur in the future at Van Nuys Airport. All air taxi operations are expected to be eliminated soon in favor of the bus service to the air carrier airports. General aviation operations are the major factor in total aircraft operations at Van Nuys Airport. 99% of all operations are in the general aviation category. Overall, Van Nuys Airport is vital and growing. It is one of the busiest airports in the country and the Department still is looking forward to planned growth for VNY and increased service to the community and flying public. The planned growth is a continuous and ongoing process. An area on the east side of the airport is being developed to provide additional services and facilities, the Department is preparing the Hayvenhurst area for development in the near future, and on the east side of the airport an area is reserved for eventual development as a passenger terminal.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1976	1977	1978	1979
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.2	0	0	0	0
1a.	Air Taxi	0.2	0	0	0	0
2.	General Aviation	606.6	616.9	627.2	638.1	648.9
2a.	Itinerant	364.0	370.1	376.3	382.9	389.3
2b.	Local	242.6	246.8	250.9	255.2	259.6
3.	Military	3.5	3.5	3.5	3.5	3.5
4.	Total Aircraft Operations	610.3	620.4	630.7	641.6	652.4
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	891				
8a.	Single Engine	676				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	891				

VNY

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	16R	6569	Same	-	ILS	-	-
2.	34L	8000	Same	-	VFR	-	-
3.	16L	2569	Same	-	VASI	-	-
4.	34R	4000	Same	-	VFR	-	-
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 210,000 lbs Dual Tan.

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0.5 Class B; 0.5 Class C; 99.0 Class D+E; ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24 hrs	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	16R
16.	Vortac Station	Yes	21.	Joint Use	Yes
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1975	1976	1977	1978	1979
	Airside Capacities (Operations)					
*22.	Maximum Hourly Capacity (VFR)	180	180	180	180	180
*23.	Maximum Hourly Capacity (IFR)	53	53	53	53	53
*24.	Practical Annual Capacity (000)	250	250	250	250	250

*These calculated capacities are less than actual operations.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1976	1977	1978	1979
1. Parking Apron Area (000 sq ft)	2000	2000			
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	68	68	68	68	68
4. Conventional Hangars	23	23	23	23	23
5. Terminal Building Area (sq ft)	11000	11000	11000	11000	11000

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1976	1977	1978	1979
1. Automobile Parking Spaces	8038				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	Yes	Yes	Yes	Yes	Yes
5. Rail, Subway, Other Access	No	No	No	No	No

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

AIR CARRIER AIRPORT DATA LIST

Airport Name Fort Lauderdale - Hollywood International Code FLL

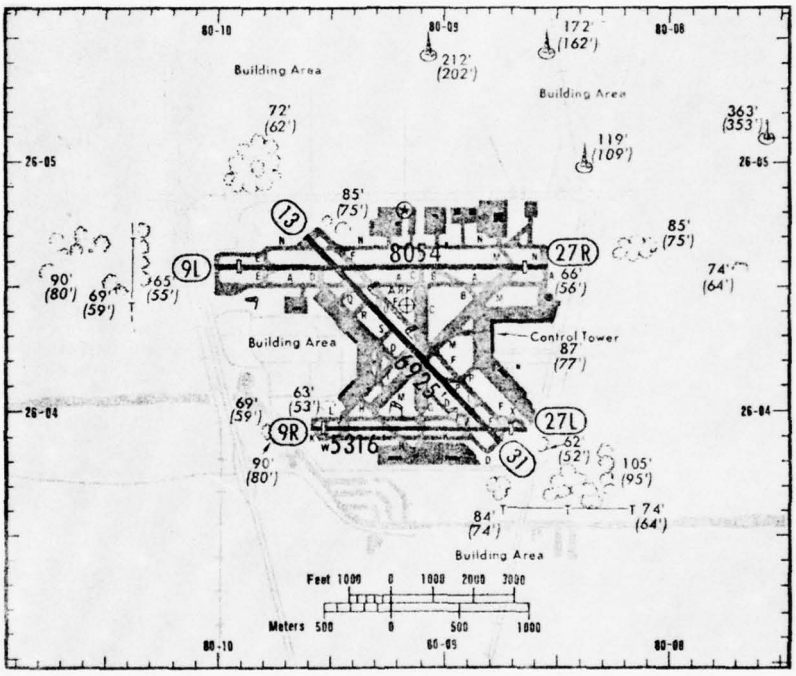
Hub Name Miami/Ft. Lauderdale Master Plan Status Underway

Approximate Distance and Direction to Hub CBD 4 miles Northeast

Approximate Number of Employees at Airport 2200 as of 1975

Number of Air Carriers 6 Commuters 3

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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FLL is located about 4 miles south of Ft. Lauderdale and has been operated by Broward County since 1958. It was initially developed as a GA field and derived a large amount of revenue from business aircraft operations, since Miami International airport is located only 25 miles away. As the air transportation industry in the U.S.

grew, air carrier activity was introduced to FLL in 1953 (Mackey), and in 1958 by Northeast Airlines. Six trunks now serve FLL. With increasing air carrier activity and the development of other close-by GA fields, GA activity and flight training activity has gradually decreased at FLL. This trend can be expected to continue. The terminal facilities and parking facilities have been expanded many times; however, runway extension is limited by surrounding commercial and residential development, as well as environmental considerations. FLL is currently undertaking a new master plan study.

PART 1. DEMAND FORECASTS

		Actual Year: 1974	1980	1985	1990	
	Enplaned Passengers (000)					
1.	Air Carrier	1648	3095	4305	5789	
2.	Commuter (Including Air Taxi)	60	113	157	211	
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	1627	3056	4250	5715	
6.	International	81	152	212	285	
7.	Total Enplaned Passengers	1708	3208	4462	6000	
8.	Total FAA 1974 Forecasts		2265	2954	3650	
	Aircraft Operations (000)					
9.	Air Carrier	64.4	114.7	136.8	155.4	
10.	Commuter (Including Air Taxi)	14.3	15.6	16.2	17.3	
10a.	Air Taxi					
11.	General Aviation	235.1	264	242	222	
11a.	Itinerant	162.6	198	181.5	166	
11b.	Local	72.5	66	60.5	56	
12.	Military	1.0	6.0	6.0	6.0	
13.	Total Aircraft Operations	314.8	400.3	401.0	400.7	
14.	Total FAA 1974 Forecasts		426	606	840	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	1036	3208	4462	5401	
16.	Aircraft	25	71	83	95	
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	6				

FLL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	9R	4986			VFR
2.	27L	4916			VFR
3.	9L	7452			ILS-I
4.	27R	7441			LOC-BC
5.	13	6925			VOR
6.	31	6925			VFR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 2 Class AA 3 Class A 10 Class B 10 Class C 75 Class D + E Class E

	Year:	Actual 1974	1980	1985	1990	
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	190	167	130	130	
17.	Maximum Hourly Capacity (IFR)	96	114	87	87	
18.	Minimum Hourly Capacity (IFR)					
19.	Practical Annual Capacity (000)	459	430	400	400	

FLL

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1974	1980	1985	1990	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	16-19	37	42	48	
1a. International Terminal	0	0	0	0	
2. Wide Body Parking Positions	6	26	31	37	
2a. International Terminal	0	0	0	0	
3. Gates (Passenger Exits)	12-14	33	38	44	
3a. International Terminal	0	0	0	0	
Ticket Counters					
4. Linear Feet	374	778	982	1200	
4a. International Terminal	0	0	0	0	
5. Stations	24	50	63	77	
5a. International Terminal	0	0	0	0	
Baggage Claim					
6. Public Area (sq ft)	5160	10728	13544	16591	
6a. International Terminal	0	0	0	0	
7. Equipment Types	6 Conveyers				
8. Equipment Capacity (bags/min)	240	500	631	771	
8a. International Terminal	0	0	0	0	
Security Inspection					
9. Parallel Passenger Servers	10	21	26	32	
9a. International Terminal	0	0	0	0	
10. Manual (Carry On Baggage)	0	0	0	0	
10a. International Terminal	0	0	0	0	
11. X-ray (Carry On Baggage)	4	8	10	12	
11a. International Terminal	0	0	0	0	

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1974	1980	1985	1990	
	Terminal Area (000 sq ft)					
12.	Total Area	164	271.9	343.3	419.7	
12a.	International Terminal	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	656	1088	1373	1679	
14.	Annual (000)	1640	2719	3433	4197	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	26	26	26	26	
16.	Apron Area (000 sq ft)	101	101	101	101	
17.	Aircraft Parking Positions					
18.	Truck Loading Docks	10				
19.	Cargo Loading Type	X Manual		Semi-Automatic		Fully Automatic
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	37800	37800	37800	37800	
21.	Apron Area (000 sq ft)	390	390	390	390	
22.	Hangar Area (sq ft)	133600	133600	133600	133600	
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger	2				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1974	1980	1985	1990	
	Automobile Parking Spaces					
1.	Total Public	2600	4812	6693	8102	
1a.	Short Term	200				
2.	Rental Car	120				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2400	2400	2400	2400	
	Curb Frontage					
4.	Lineal Feet	1850	3846	4856	5936	
4a.	Enplaned	--	--	--	--	
4b.	Deplaned	--	--	--	--	
5.	International Terminal Lineal Feet	0	0	0	0	
5a.	Enplaned	0	0	0	0	
5b.	Deplaned	0	0	0	0	
	Mass Transit					
6.	Bus	No	No	No	No	
7.	Subway, Rail, Other	No	No	No	No	
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	____%				
9.	Taxi	____%				
10.	Bus (Includes Hotel Shuttles, Limos)	0 %				
11.	Subway, Rail, Other	0 %				
	Percentage of People Entering Airport					
12.	Passengers	____%				
13.	Visitors, Well Wishers, Greeters	____%				
14.	Employees	____%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	____				

FLL

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/1/2,3,4	Gates	32	1990	17600	1975

Gates will be added during each five year period at a cost of $55/sq. ft. (10000 sq ft/gate).

3/12/2,3,4	Terminal	255700 sq.ft	1990	14064	1975

Terminal area will be added during each five year period at a cost of $55/sq. ft.

4/1/2,3,4	Auto Space	5502	1990	825.3	1975

Auto parking stalls will be added during each five year period at a cost of $150/space.

FLL

GENERAL AVIATION AIRPORT DATA LIST

Airport Name North Perry Code HWO

Hub Name Miami/Ft. Lauderdale Master Plan Status None

Approximate Distance and Direction to Hub CBD 8 miles East (Ft. Lauderdale)

Approximate Distance and Direction to Hub Air Carrier Airport 8 miles Southeast

Name of That Airport Fort Lauderdale-Hollywood Int. Number of Commuters 0

Approximate Number of Employees at Airport 100 as of 1975

HWO is located six miles west of Hollywood and has been owned by Broward County since 1957. The airport serves the light GA market of Hollywood-South Fort Lauderdale exclusively; HWO is restricted to non-jets under 12,500 TOGW. There are two FBO's. Runway extension is completely restricted by surrounding residential developments, but sufficient area exists within the airport boundary for terminal and parking expansion.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	
1a.	Air Taxi	0	0	0	0	
2.	General Aviation	227	401	401	596	
2a.	Itinerant	78	112	112	167	
2b.	Local	149	289	289	429	
3.	Military	0	0	0	0	
4.	Total Aircraft Operations	227	401	401	596	
5.	Total FAA 1974 Forecasts		347	502	617	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour	237	237	237	321	
	Based Aircraft					
8.	Fixed Wing	213	352	352	528	
8a.	Single Engine	183	283	283	413	
8b.	Jets	0	0	0	0	
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing	13	13	13	14	
10.	Total Based Aircraft	226	365	365	542	

HWO

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9L	3050	Same	-	VFR		
2.	27R	3050	Same	-	VFR		
3.	9R	3000	Same	-	VFR		
4.	27L	3000	Same	-	VFR		
5.	18L	3068	Same	-	VFR		
6.	36R	3068	Same	-	VFR		
7.	18R	3003	Same	-	VFR		
8.	36L	3003	Same	-	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: Beech 18

11a. Class of This Aircraft: AA A B C (D) E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 0 Class C; 14 Class D; 86 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	No
14.	Hours of Service	24 Hrs	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	None
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1980	1985	1990	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	200	200	200	200	
23.	Maximum Hourly Capacity (IFR)	0	0	0	0	
24.	Practical Annual Capacity (000)	405	405	405	405	

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	
1. Parking Apron Area (000 sq ft)	324	918	918	1323	
2. Hangar Area (000 sq ft)	378	762	762	1121	
3. T-Hangar Parking Positions	77	119	119	172	
4. Conventional Hangars	1	6	6	10	
5. Terminal Building Area (sq ft)	9927	14147	14147	21127	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	
1. Automobile Parking Spaces	64	488	488	674	
2. Access Road Capacity (vehicles/hr)	1200	1200	1200	1200	
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	No	No	No	No	
5. Rail, Subway, Other Access	No	No	No	No	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/1/4	Apron	236 a/c spaces	1990	785	1975
G.A. apron will be paved (66,000 sq. yd. by 1980; 45,000 sq. yd. by 1990) to provide additional paved tie-downs.					
3/3/4	T-hangars	95 aircraft	1990	627	1975
95 additional T-hangars will be added at $6,600/hangar.					
3/2,4/4	Hangars	9	1990	900	1975
9 conventional hangars will be added at $100,000/hangars.					
3/5/4	Terminal	11,200 sq. ft	1990	280	1975
The G.A. terminal will be expanded at $25/sq. ft.					
4/1/4	Auto spaces	610	1990	91.5	1975
Parking spaces will be added at $150/space.					

AIR CARRIER AIRPORT DATA LIST

Airport Name Miami International Code MIA

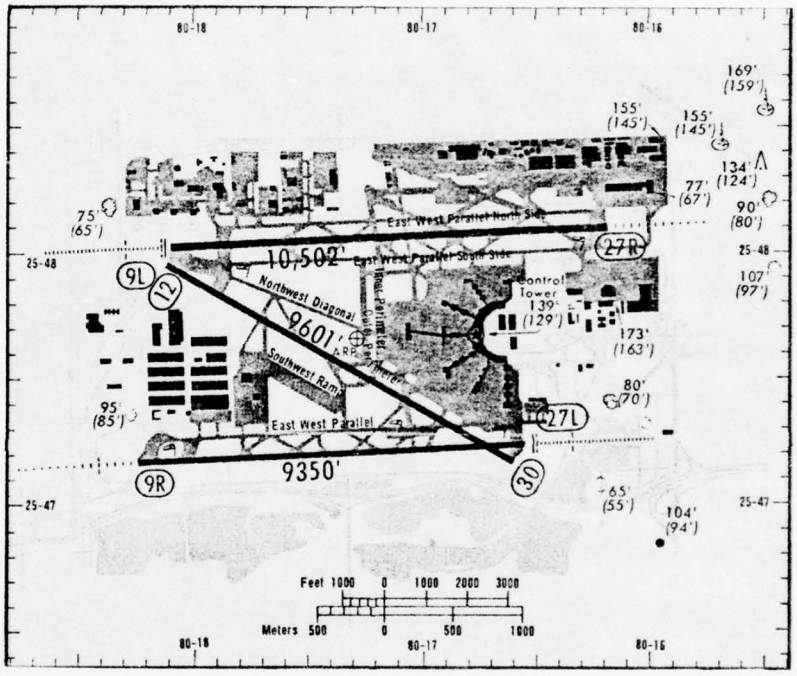
Hub Name Miami/Ft. Lauderdale Master Plan Status Underway

Approximate Distance and Direction to Hub CBD 7 miles Southeast

Approximate Number of Employees at Airport 15,000 as of 1975

Number of Air Carriers 34 Commuters 9

Terminal Type: ___ Linear X Pier ___ Satellite ___ Transporter



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MIA is one of a system of six airports operated by the Dade County Aviation Department and the only one receiving scheduled air carrier service. The airport is situated on approximately 3,000 acres and is the largest commercial airport serving South Florida. MIA is one of the top ten airports in the world in terms of passengers, cargo, and scheduled aircraft operations.

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It is number two in the U.S. in terms of international passengers and cargo. It is recognized as the top business generator in South Florida. There are nine FBO's providing service at MIA.

Miami is currently initiating a master plan study. Discussions with airport planners indicate that the only airside expansion planned for MIA is an extension of 9R/27L westward following the acquisition of some land in that area. Expansion of the terminal will take place by addition of new concourses to the existing ones. Sufficient area exists within the airport property to accommodate planned terminal and aircraft parking position expansion.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Enplaned Passengers (000)					
1.	Air Carrier					
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting	1282	2791	4030	5525	
4.	Originating	3847	8373	12089	16577	
5.	Domestic	3077	6698	9671	13261	
6.	International	2052	4466	6448	8841	
7.	Total Enplaned Passengers	5129	11164	16119	22102	
8.	Total FAA 1974 Forecasts		7800	9940	12070	
	Aircraft Operations (000)					
9.	Air Carrier	207	260	300	329	
10.	Commuter (Including Air Taxi)	25	33	38	42	
10a.	Air Taxi					
11.	General Aviation	70	92	84	46	
11a.	Itinerant	70	92	84	46	
11b.	Local	0	0	0	0	
12.	Military	1	1	1	1	
13.	Total Aircraft Operations	303	386	423	418	
14.	Total FAA 1974 Forecasts		384	393	403	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	3760	8931	11283	15471	
16.	Aircraft	65	86	100	110	
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	371	556	834	1251	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	9L	10,500			ILS-I
2.	27R	10,500			ILS-I
3.	9R	9,349	13,000	1980	LOC(BC)
4.	27L	9,349	13,000	1980	ILS-I
5.	12	9,600			VOR
6.	30	9,600			VOR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 9 Class AA 10 Class A 59 Class B 14 Class C 8 Class D/E _____ Class E

	Year:	Actual 1974	Forecast 1980	1985	1990	
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	100+	100+	100+	100+	
17.	Maximum Hourly Capacity (IFR)					
18.	Minimum Hourly Capacity (IFR)	65	92	92	92	
19.	Practical Annual Capacity (000)	400	450	450	450	

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	78	86	94	106	
1a. International Terminal	14	22	22	26	
2. Wide Body Parking Positions	29	37	45	57	
2a. International Terminal	2	10	10	14	
3. Gates (Passenger Exits)	78	86	94	106	
3a. International Terminal	14	22	22	26	
Ticket Counters					
4. Linear Feet	1900	2090	2290	2530	
4a. International Terminal	760	836	916	1012	
5. Stations	300	330	360	400	
5a. International Terminal	120	130	140	160	
Baggage Claim					
6. Public Area (sq ft)	43400	47740	52500	57500	
6a. International Terminal	7200	11540	11540	13340	
7. Equipment Types	18 conveyors and carousels				
8. Equipment Capacity (bags/min)	720	790	870	960	
8a. International Terminal	120	190	190	220	
Security Inspection					
9. Parallel Passenger Servers	14	16	18	20	
9a. International Terminal	2	4	4	5	
10. Manual (Carry On Baggage)	0	0	0	0	
10a. International Terminal	0	0	0	0	
11. X-ray (Carry On Baggage)	7	9	11	12	
11a. International Terminal	1	3	3	4	

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Terminal Area (000 sq ft)					
12.	Total Area	1800	1980	2180	2400	
12a.	International Terminal	720	792	872	960	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	7200	7920	8720	9600	
14.	Annual (000)	18000	19800	21800	24000	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	651	977	1465	2198	
16.	Apron Area (000 sq ft)	4400	6600	9900	14850	
17.	Aircraft Parking Positions	170	255	383	574	
18.	Truck Loading Docks					
19.	Cargo Loading Type	X Manual	___ Semi-Automatic	___ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	6000	6000	6000	6000	
21.	Apron Area (000 sq ft)	120000	120000	120000	120000	
22.	Hangar Area (sq ft)	10000	10000	10000	10000	
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Automobile Parking Spaces					
1.	Total Public	6000	13397	16925	23208	
1a.	Short Term	50	50	50	50	
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	3600	3600	3600	3600	
	Curb Frontage					
4.	Lineal Feet	6000	6000	7200	7800	
4a.	Enplaned	3000	3300	3600	3900	
4b.	Deplaned	3000	3300	3600	3900	
5.	International Terminal Lineal Feet					
5a.	Enplaned					
5b.	Deplaned					
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	
7.	Subway, Rail, Other	No	No	No	No	

Passenger Modal Split

8.	Automobile (Includes Rental Car)	59 %
9.	Taxi	22 %
10.	Bus (Includes Hotel Shuttles, Limos)	19 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	%
13.	Visitors, Well Wishers, Greeters	%
14.	Employees	%

Vehicle Count

15.	Number of Vehicles Per Passenger	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3,4/3	Runway Ext.	3600 ft	1980	40,000	1975

Runway will be extended by 3,600 ft for extended range operations; no increase in capacity expected.

3/1,12/4	Terminal/Gate	28 gates	1990	28,000	1975

Gates and terminal will be expanded during each five year period at a cost of $1,000,000 per gate and associated terminal area.

4/1/4	Parking spaces	17,208	1990	2580	1975

Parking stalls will be added during each 5 year period at a cost of $150. per stall.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Opa Locka Code OPF

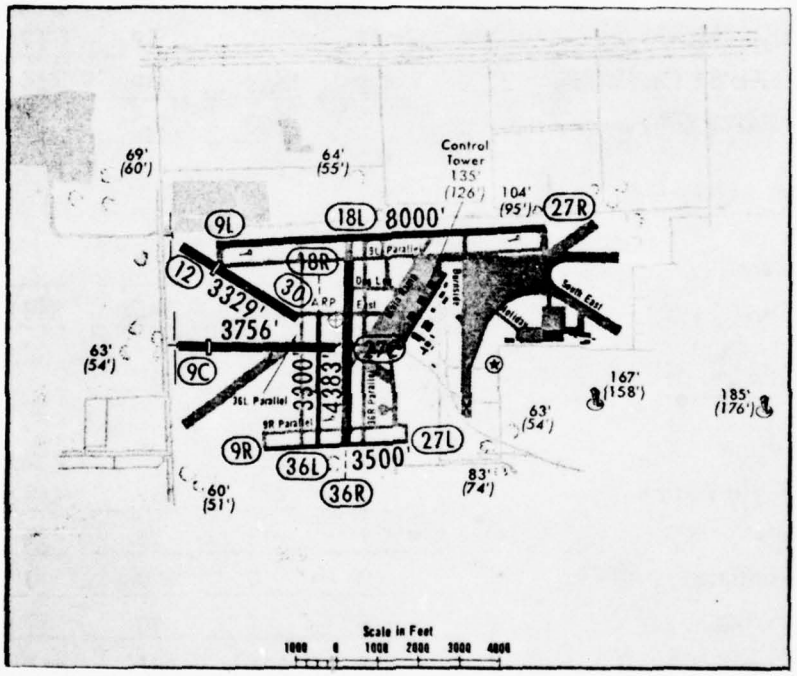
Hub Name Miami-Ft. Lauderdale Master Plan Status None

Approximate Distance and Direction to Hub CBD 11 Miles South

Approximate Distance and Direction to Hub Air Carrier Airport 8 Miles

Name of That Airport Miami International Number of Commuters 0

Approximate Number of Employees at Airport 100 as of 1975



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Opa Locka Airport (OPF) is located 11 miles north of Miami and one mile west of the city of Opa Locka and is operated by the Dade County Aviation Department. The airport is a GA reliever airport for MIA. OPF is the busiest of the four GA airports operated by Dade County and in fact is one of the busiest GA airfields in the world. There is a U.S. Customs facility in the airport. Five FBO's provide service. There is also a U.S. Coast Guard Air-Sea Rescue Squadron at OPF. Future expansion at the airport appears restricted from land use and environmental considerations.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	
1a.	Air Taxi	0	0	0	0	
2.	General Aviation	410	637	647	657	
2a.	Itinerant	198	331.2	336.4	341.6	
2b.	Local	212	305.8	310.6	315.4	
3.	Military USCG	12	12	12	12	
4.	Total Aircraft Operations	422	649	659	669	
5.	Total FAA 1974 Forecasts		603	860	1130	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour	340	341	345	348	
	Based Aircraft					
8.	Fixed Wing	517	630	637	646	
8a.	Single Engine	392	471	462	449	
8b.	Jets	9	13	26	33	
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing	6	7	10	11	
10.	Total Based Aircraft	523	637	647	657	

OPF

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways

	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9R	3500			VFR		
2.	27L	3500			VFR		
3.	9C	3010			VFR		
4.	27C	3756			VFR		
5.	9L	8000			VOR	ILS	1980
6.	27R	8000			VFR		
7.	12	2338			VFR		
8.	30	3329			VFR		
9.	18R/36L	3300			VFR		
10.	18L/36R	4383			VFR		

11. Heaviest Aircraft Capable of Using Primary Runway: DC-8-10

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 1 Class B; 9 Class C; 90 Class D/E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	7a.m. -11 p.m.	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	9L
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	220	307	307	307	
23.	Maximum Hourly Capacity (IFR)	36	106	106	106	
24.	Practical Annual Capacity (000)	515	657	657	657	

OPF

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1980	1985	1990	
1. Parking Apron Area (000 sq ft)	324	324	324	324	
2. Hangar Area (000 sq ft)	100	2205	2205	2205	
3. T-Hangar Parking Positions	0	760	760	760	
4. Conventional Hangars	1	1	1	1	
5. Terminal Building Area (sq ft)	20000	20000	20000	20000	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1980	1985	1990	
1. Automobile Parking Spaces	300	770	770	770	
2. Access Road Capacity (vehicles/hr)	1200	1200	1200	1200	
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	No	No	No	No	
5. Rail, Subway, Other Access	No	No	No	No	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/23/2	Approach Aids	70 ops/hr	1980	819	1975

Approach Aids will be added (4 REIL, 2 VASI-2, 2 VASI-4, ILS CAT I, ALS CAT I). Control Tower Landing System will be upgraded.

3/3/2	T-Hangars	76 units	1980	502	1975

Seventy-six (76) T-hangars @$6,600/hangar will be built.

4/1/2	Auto Spaces	470	1980	71	1975

470 will be added @$150/space

AIR CARRIER AIRPORT DATA LIST

Airport Name Palm Beach International Code PBI

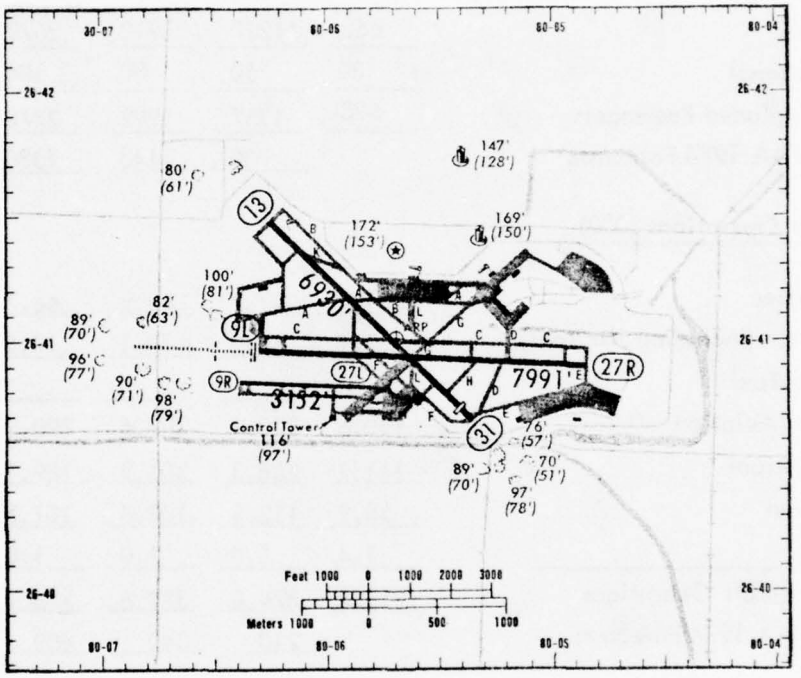
Hub Name Miami/Ft. Lauderdale Master Plan Status None

Approximate Distance and Direction to Hub CBD 3 miles East

Approximate Number of Employees at Airport 2,000 as of 1975

Number of Air Carriers 4 Commuters 2

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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PBI has been a civilian airport since 1959 and serves the air carrier and general aviation markets of Palm Beach County. It is currently served by four trunks (Eastern, Delta, National and United), and two commuters (Mackey International and Shawnee). PBI has three FBO's serving general aviation and is open twenty-four hours a day. Runway extension is restricted by surrounding development. There is sufficient area within the airport boundary to allow for planned expansion of terminal buildings, aircraft parking and automobile parking. Because air carrier traffic at PBI is highly seasonal (the peak month has about three times the passenger enplanements of the low month), planning is done for an average month's traffic, leading to some congestion during the peak months.

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PART 1. DEMAND FORECASTS

		Actual Year: 1974	1980	1985	1990	
	Enplaned Passengers (000)					
1.	Air Carrier	633	1297	1912	2672	
2.	Commuter (Including Air Taxi)	30	60	80	106	
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	663	1297	1912	2672	
6.	International	30	60	80	106	
7.	Total Enplaned Passengers	693	1357	1992	2778	
8.	Total FAA 1974 Forecasts		900	1140	1380	
	Aircraft Operations (000)					
9.	Air Carrier	31.3	41.7	49.9	66.7	
10.	Commuter (Including Air Taxi)	7.9	10.9	13.1	17.5	
10a.	Air Taxi					
11.	General Aviation	170.6	320.4	309.6	290.9	
11a.	Itinerant	111.7	208.3	201.2	189.1	
11b.	Local	58.9	112.1	108.4	101.8	
12.	Military	1.4	1.0	1.0	1.0	
13.	Total Aircraft Operations	211.2	374.0	373.6	376.1	
14.	Total FAA 1974 Forecasts		240	340	450	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	428	1297	1912	2672	
16.	Aircraft	16	28	34	46	
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	2.2	2.4	2.6	2.8	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	9R	3152			VFR
2.	27L	3152			VFR
3.	9L	7991			ILS-I
4.	27R	7991			LOC-BC
5.	13	6930			VFR
6.	31	6502			VFR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 3 Class AA 0 Class A 11 Class B 12 Class C 25 Class D 49 Class E

	Year:	Actual 1974	1980	1985	1990	
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	133	133	133	133	
17.	Maximum Hourly Capacity (IFR)					
18.	Minimum Hourly Capacity (IFR)	79	79	79	79	
19.	Practical Annual Capacity (000)	375	375	375	375	

PBI

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year:	1974	1980	1985	1990	
Passenger Terminal(s)						
Gates						
1. Aircraft Parking Positions		16	19	22	28	
1a. International Terminal		0	0	0	0	
2. Wide Body Parking Positions		8	11	14	20	
2a. International Terminal		0	0	0	0	
3. Gates (Passenger Exits)		12	15	18	24	
3a. International Terminal		0	0	0	0	
Ticket Counters						
4. Linear Feet		320	464	595	747	
4a. International Terminal		0	0	0	0	
5. Stations		18	27	35	44	
5a. International Terminal		0	0	0	0	
Baggage Claim						
6. Public Area (sq ft)		5340	7830	10180	12610	
6a. International Terminal		0	0	0	0	
7. Equipment Types		2 conveyors - 1 Manual				
8. Equipment Capacity (bags/min)		120	180	230	290	
8a. International Terminal		0	0	0	0	
Security Inspection						
9. Parallel Passenger Servers		6	9	12	16	
9a. International Terminal		0	0	0	0	
10. Manual (Carry On Baggage)		0	0	0	0	
10a. International Terminal		0	0	0	0	
11. X-ray (Carry On Baggage)		6	9	12	16	
11a. International Terminal		0	0	0	0	

PBI

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1974	1980	1985	1990	
	Terminal Area (000 sq ft)					
12.	Total Area	126.3	183	235	295	
12a.	International Terminal	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	500	732	940	1180	
14.	Annual (000)	1250	1830	2350	2950	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	13.2	13.2	13.2	13.2	
16.	Apron Area (000 sq ft)	0	0	0	0	
17.	Aircraft Parking Positions	0	0	0	0	
18.	Truck Loading Docks	22	22	22	22	
19.	Cargo Loading Type	X Manual		___ Semi-Automatic		___ Fully Automatic
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	15000	15000	15000	15000	
21.	Apron Area (000 sq ft)	336	336	336	336	
22.	Hangar Area (sq ft)	53525	53525	15000	15000	
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot	3 hrs				
26.	Number of Checked Bags per Passenger	2				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1974	1980	1985	1990	
	Automobile Parking Spaces					
1.	Total Public	1097	1207	1575	1947	
1a.	Short Term	900	900	900	900	
2.	Rental Car	100	100	100	100	
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2400	2400	2400	2400	
	Curb Frontage					
4.	Lineal Feet	2045	3060	3920	4920	
4a.	Enplaned	--	--	--	--	
4b.	Deplaned	--	--	--	--	
5.	International Terminal Lineal Feet	0	0	0	0	
5a.	Enplaned	0	0	0	0	
5b.	Deplaned	0	0	0	0	
	Mass Transit					
6.	Bus	No	No	No	No	
7.	Subway, Rail, Other	No	No	No	No	
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	80 %				
9.	Taxi	15 %				
10.	Bus (Includes Hotel Shuttles, Limos)	5 %				
11.	Subway, Rail, Other	0 %				
	Percentage of People Entering Airport					
12.	Passengers	____ %				
13.	Visitors, Well Wishers, Greeters	____ %				
14.	Employees	____ %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	____				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name New Tamiami Code TMB

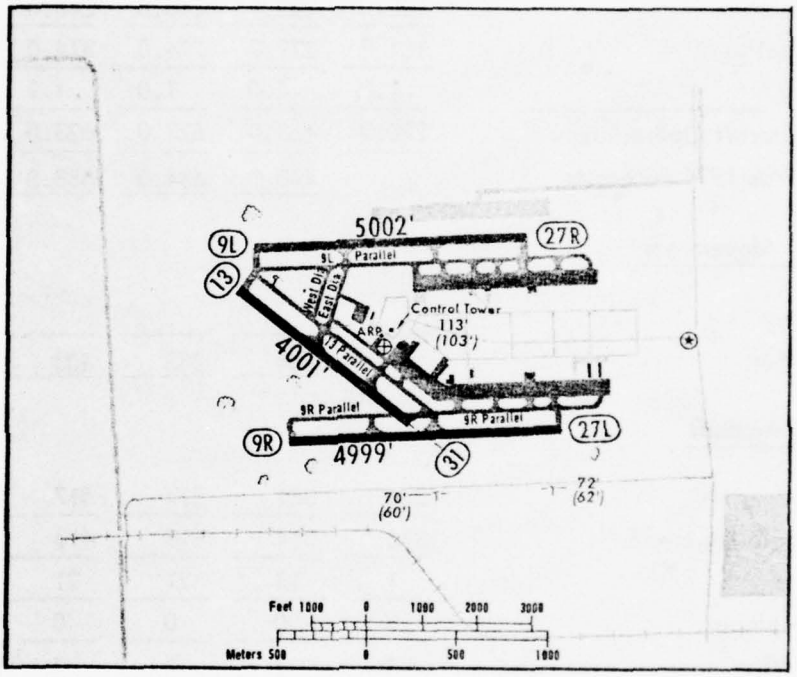
Hub Name Miami-Ft. Lauderdale Master Plan Status None

Approximate Distance and Direction to Hub CBD 15 miles Northeast

Approximate Distance and Direction to Hub Air Carrier Airport 6 miles North

Name of That Airport Miami International Number of Commuters 0

Approximate Number of Employees at Airport 100 as of 1975



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New Tamiami Airport (TMB) is operated by the Dade County Aviation Department. The airport was opened in March 1968 to serve the general aviation market of southern Miami. Seven FBO's provide service. Land surrounding the airport is primarily agricultural and appears to provide expansion potential without adverse environmental impact.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	
1a.	Air Taxi	0	0	0	0	
2.	General Aviation	289.0	462.0	622.0	622.0	
2a.	Itinerant	108.0	182.1	248.0	248.0	
2b.	Local	181.0	279.9	374.0	374.0	
3.	Military	1.2	1.0	1.0	1.0	
4.	Total Aircraft Operations	290.2	463.0	623.0	623.0	
5.	Total FAA 1974 Forecasts		446.0	634.0	838.0	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour	167	264	333	333	
	Based Aircraft					
8.	Fixed Wing	364	381	517	517	
8a.	Single Engine	313	314	413	413	
8b.	Jets	1	13	21	21	
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing	3	4	7	7	
10.	Total Based Aircraft	367	385	524	524	

TMB

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9R	5000			NDB	ILS	1980
2.	27L	5000			VFR		
3.	9L	5000			VFR		
4.	27R	5000			VFR		
5.	13	4000			VFR		
6.	31	4000			VFR		
7.	East	None	3000	1985	VFR		
8.	West	None	3000	1985	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: Gulfstream II

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D/E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	6am-11pm	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	9R/27L
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1980	1985	1990	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	220	220	300	300	
23.	Maximum Hourly Capacity (IFR)	36	87	120	120	
24.	Practical Annual Capacity (000)	421	465	625	625	

TMB

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1980	1985	1990	
1. Parking Apron Area (000 sq ft)	325	325	325	325	
2. Hangar Area (000 sq ft)	5200	5200	5200	5200	
3. T-Hangar Parking Positions	400	670	1270	1270	
4. Conventional Hangars	1	1	1	1	
5. Terminal Building Area (sq ft)	10000	10000	15735	15735	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1980	1985	1990	
1. Automobile Parking Spaces	370	584	736	736	
2. Access Road Capacity (vehicles/hr)	1200	1200	1200	1200	
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	Yes	Yes	Yes	Yes	
5. Rail, Subway, Other Access	Helicopter				

TMB

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/23/2	Navaid	51 ops/hr	1980	328	1975
New approach aids (4 REIL units, 4 VAS1-4 units, ILS-CAT I Landing System, ALS Cat I Landing System).					
2/22/3	Runway	80 ops/hr	1985	296	1980
New East/West runway for training and access taxiway construction.					
3/3/2,3	Hangars	87 hangars	1985	574	1980
T-Hangars will be added during each five year period @ $6600/hangar.					
4/1/2,3	Auto Parking	366 Spaces	1985	55	1980
Automobile spaces will be added during each five year period @ $150/stall.					

TMB

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Anoka County ; Code ANE

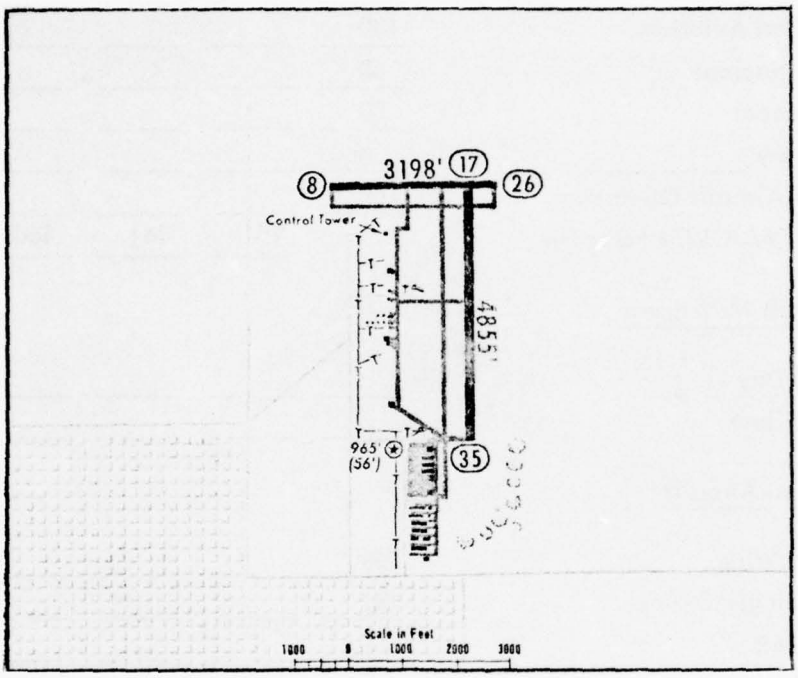
Hub Name Minneapolis-St.Paul Master Plan Status None

Approximate Distance and Direction to Hub CBD 13 Miles South

Approximate Distance and Direction to Hub Air Carrier Airport 20 Miles South

Name of That Airport Wold-Chamberlain Field Number of Commuters 0

Approximate Number of Employees at Airport 75-100 as of 1975



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Plans for Anoka County Airport (1900 acres), which was initially acquired by MAC as a potential transport category airport, are at the moment indefinite, as the North Search Area is being looked at as a site for a new major airport.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1976	1977	1978	1981
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi	0				
2.	General Aviation	130				
2a.	Itinerant	50				
2b.	Local	80				
3.	Military	0				
4.	Total Aircraft Operations	130				
5.	Total FAA 1974 Forecasts		154	161	168	199
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	209				
8a.	Single Engine	197				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	1				
10.	Total Based Aircraft	210				

ANE

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	17	4850			VFR		
2.	35	4850			VFR		
3.	8	3200			VFR		
4.	26	3200			VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-3

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage)

0	Class AA	0	Class A	0	Class B
0	Class C	10	Class D	90	Class E

Miscellaneous Airside Data

13.	FAA Tower (Weekend Operation)		18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1980			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	147	147			
23.	Maximum Hourly Capacity (IFR)	60	60			
24.	Practical Annual Capacity (000)	460	460			

ANE

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions					
4. Conventional Hangars					
5. Terminal Building Area (sq ft)					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Automobile Parking Spaces	200				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	No				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Flying Cloud Code FCM

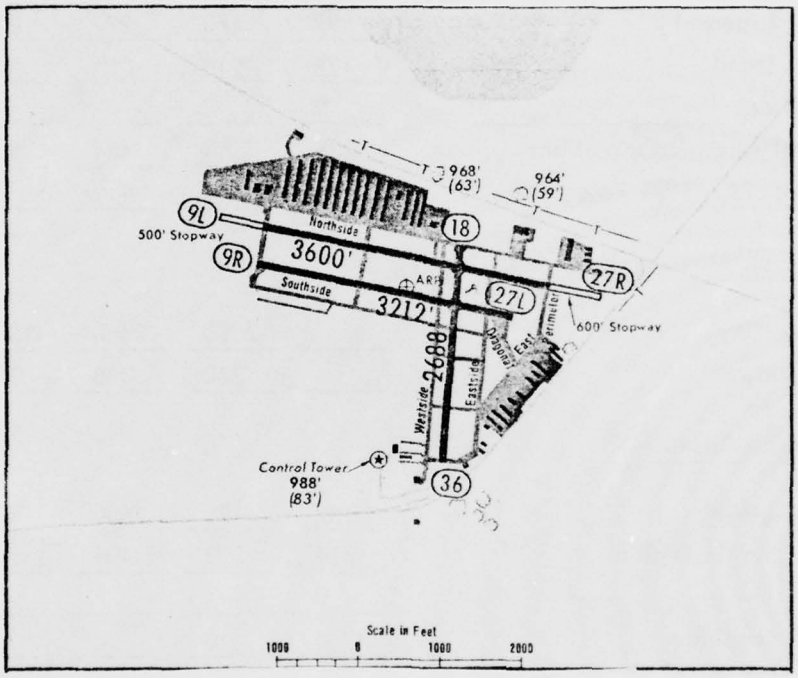
Hub Name Minneapolis-St.Paul Master Plan Status 1975 (Interim)

Approximate Distance and Direction to Hub CBD 15 Miles Northeast

Approximate Distance and Direction to Hub Air Carrier Airport 12 Miles Northeast

Name of That Airport Wold-Chamberlain Field Number of Commuters None

Approximate Number of Employees at Airport 200 as of 1975



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Flying Cloud will probably remain a general utility facility. A general utility facility is designed to accommodate substantially all propeller aircraft of less than 12,500 pounds gross weight (i.e., seating capacity of 2 - 19 passengers, light and medium, twin and single engine aircraft). The data source, unless otherwise noted, is Interim Report, Flying Cloud Airport Master Plan Study, prepared for MAC by Specs Associates, et al., February 1975.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1995	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	2	3	4	5	
1a.	Air Taxi					
2.	General Aviation	227	380	450	500	
2a.	Itinerant	89	170	222	285	
2b.	Local	138	210	228	215	
3.	Military	0				
4.	Total Aircraft Operations	229	383	454	505	
5.	Total FAA 1974 Forecasts		344	489	529	
	Aircraft Movements					
6.	Peak-Day		2005	2360	2570	
7.	Peak-Hour		240	306	350	
	Based Aircraft					
8.	Fixed Wing	382	495	550	620	
8a.	Single Engine	314	393	409	440	
8b.	Jets	0				
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing					
10.	Total Based Aircraft	382	495	550	620	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9R	3600	Same		VFR		
2.	27L	3600	Same		VFR		
3.	9L	3212	Same		VOR		
4.	27R	3212	Same		VFR		
5.	18	2688	Same		VFR		
6.	36	2688	Same		VOR		
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway 30000 lbs single-wheel gear type

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage) ___ Class AA 0 Class A 0 Class B
0 Class C 25 Class D 75 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	No
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	None
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1980			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	112	112			
23.	Maximum Hourly Capacity (IFR)	36	36			
24.	Practical Annual Capacity (000)	383	383			

FCM

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1995	
1. Parking Apron Area (000 sq ft)		373	497	645	
2. Hangar Area (000 sq ft)		1167	1329	1534	
3. T-Hangar Parking Positions	78				
4. Conventional Hangars	5				
5. Terminal Building Area (sq ft)	-				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1995	
1. Automobile Parking Spaces	500	273	305	392	
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	No				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Crystal Code MIC

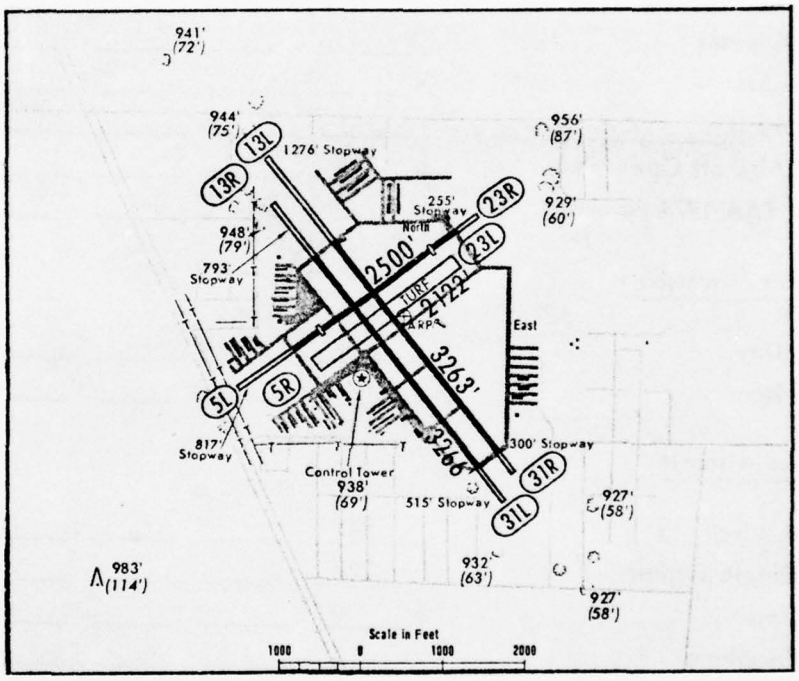
Hub Name Minneapolis-St.Paul Master Plan Status None

Approximate Distance and Direction to Hub CBD 10 Miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 15 Miles Southeast

Name of That Airport Wold-Chamberlain Field Number of Commuters 0

Approximate Number of Employees at Airport 100-150 as of 1975



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No present plans for expansion or change due to proximity of population; thus MIC will remain as is into the foreseeable future. Excess demand that cannot be met by present capacity will be diverted to other airports.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1981	1986		
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi					
2.	General Aviation	171				
2a.	Itinerant					
2b.	Local					
3.	Military					
4.	Total Aircraft Operations	171				
5.	Total FAA 1974 Forecasts		242	347		
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	249				
8a.	Single Engine	227				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	249				

MIC

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	23R	2100	Same	-	VOR		
2.	5L	2102	Same	-	VOR		
3.	31R	3263	Same	-	VOR		
4.	13L	3263	Same	-	VOR		
5.	31L	3266	Same	-	VOR		
6.	13R	3266	Same	-	VOR		
7.	5R	2122	Same	-	VOR		
8.	23L	2122	Same	-	VOR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C (D) E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B 0 Class C 5 Class D 95 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes (Not continuous)	18.	Unicom	No
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	None
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1974				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	190				
23.	Maximum Hourly Capacity (IFR)	60				
24.	Practical Annual Capacity (000)	515				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Parking Apron Area (000 sq ft)	-				
2. Hangar Area (000 sq ft)	-				
3. T-Hangar Parking Positions	-				
4. Conventional Hangars	-				
5. Terminal Building Area (sq ft)	-				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Automobile Parking Spaces	300				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	No				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

AIR CARRIER AIRPORT DATA LIST

Airport Name Wold-Chamberlain Field (Minneapolis-St. Paul International) Code MSP

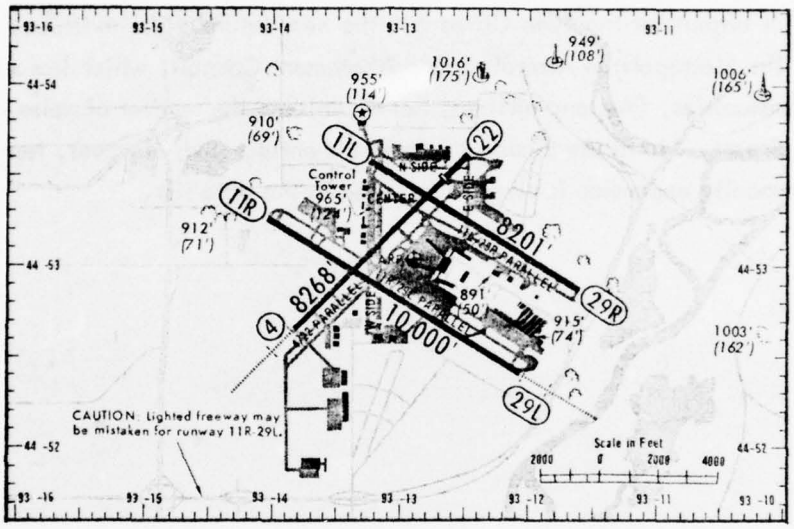
Hub Name Minneapolis-St.Paul Master Plan Status 1974

Approximate Distance and Direction to Hub CBD 6 Miles North

Approximate Number of Employees at Airport 15000 as of 1975

Number of Air Carriers 8 Commuters 4

Terminal Type: x Linear x Pier ___ Satellite ___ Transporter



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All airports studied in the Minneapolis hub are owned and operated by the Minneapolis-St.Paul Metropolitan Airports Commission (MAC). The airports are shown in the figure attached. MAC was created by the Minnesota State Legislature in 1943 in order to prepare a unified development plan for the airports in the Twin Cities area. The jurisdiction of MAC extends to areas within a thirty-five mile radius of the City Halls of each city.

Wold-Chamberlain Airport (MSP) is the major commercial airport. Access to the cities is rapid (about 15 minutes) via new expressways and interstate highways adjacent to the airport. It is the home base of Northwest Airlines and North Central

MSP

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Airlines. It is also one of the major employers in the area, with over 15,000 employees. Since the later 1960's MAC has been studying sites for a potential second airport for the Twin Cities area since MSP's location is such as to make expansion almost impossible without disrupting high-density residential communities. However, to date all sites have been rejected by either the local communities or by Northwest Airlines, the major tenant at MSP which was content with the airport and did not wish to establish operations at another airport. (See D.Harper, "The Airport Location Problem" in ICC Practitioners Journal, May/June 1971 for a complete discussion.)

A new master plan is currently being completed for MSP. MSP is likely to remain the major airport for the Twin Cities into the near future. The existence and functioning of the Metropolitan Aircraft Sound Abatement Council, which has members from MAC, communities, FAA and airlines, has diminished the number of noise complaints at the airport. No future airside expansion is anticipated; however, terminal and landside capacity expansion is planned as noted in the data list.

PART 1. DEMAND FORECASTS

		Actual Year: 1974	1980	1985	1990	
	Enplaned Passengers (000)					
1.	Air Carrier	3379	5604	8700	12600	
2.	Commuter (Including Air Taxi)	30	60	105	155	
2a.	Air Taxi					
3.	Connecting	255	420	650	940	
4.	Originating	3154	5244	8155	11815	
5.	Domestic	3364	5590	8690	12588	
6.	International	45	74	115	167	
7.	Total Enplaned Passengers	3409	5664	8805	12755	
8.	Total FAA 1974 Forecasts		4100	4900	7400	
	Aircraft Operations (000)					
9.	Air Carrier	127.0	140.0	190.0	237.0	
10.	Commuter (Including Air Taxi)	6.0	16.0	18.5	22.0	
10a.	Air Taxi					
11.	General Aviation	102.6	100.0	100.0	100.0	
11a.	Itinerant	82.3	80.0	80.0	80.0	
11b.	Local	20.3	20.0	20.0	20.0	
12.	Military USAF (934th Tact MN ANG)	9.2	5.0	5.0	5.0	
13.	Total Aircraft Operations	244.8	261.0	313.5	364.0	
14.	Total FAA 1974 Forecasts		350.0	500.0	650.0	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	3000				
16.	Aircraft	40				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	65	124	198	309	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

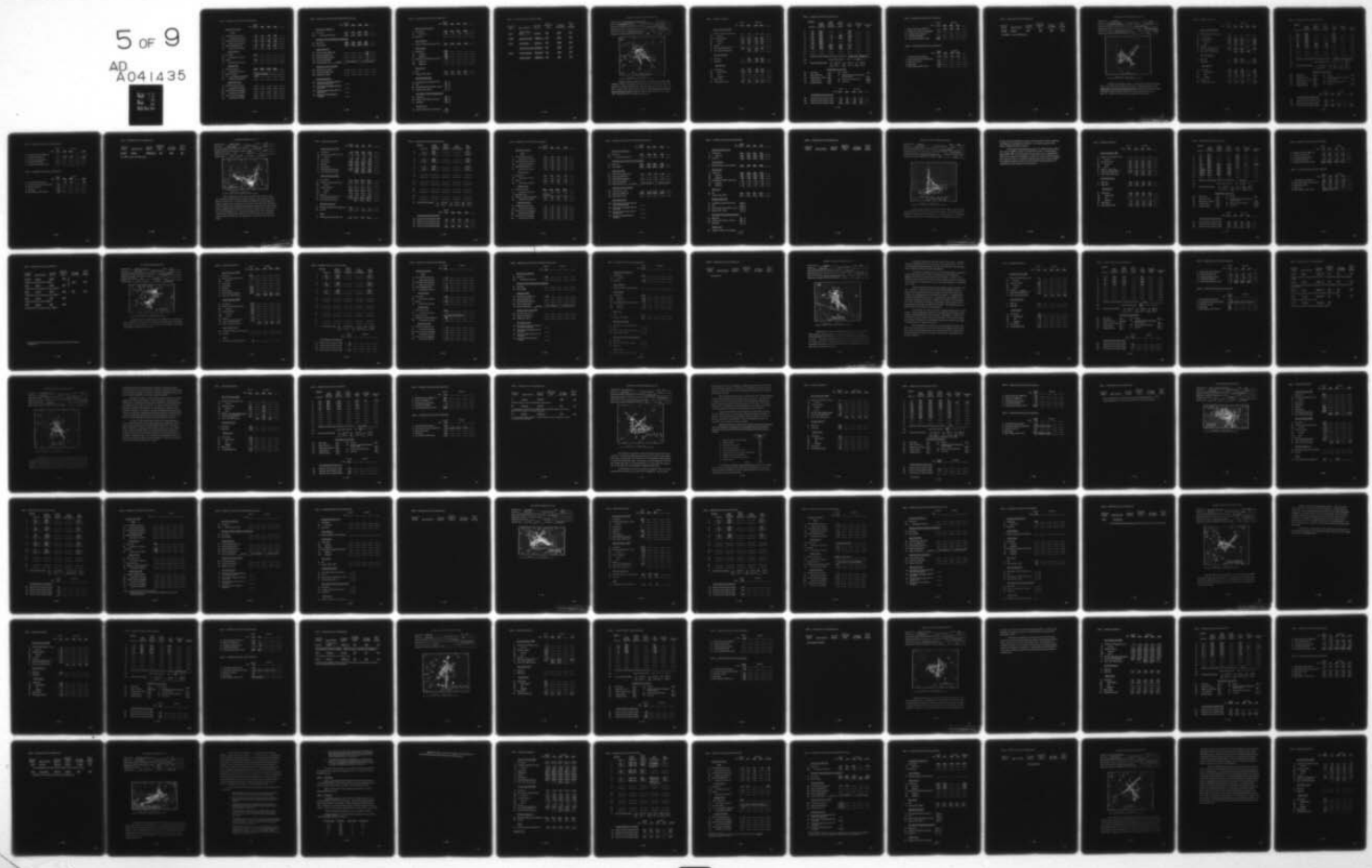
	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	11R	10000	Same		ILS-I
2.	29L	10000	Same		ILS-II
3.	11L	8200	Same		ILS-I
4.	29R	8200	Same		ILS-I
5.	4	8268	Same		ILS-I
6.	22	7268	Same		ILS-I
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

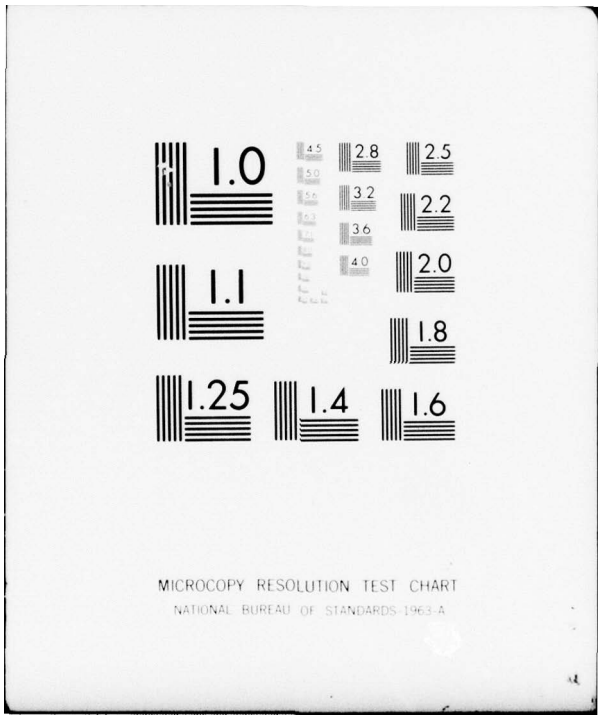
15. Fleet Mix (Percentage) 10 Class AA+A 35 Class A 35 Class B
10 Class C 20 Class D 25 Class E

	Actual Year: 1974	1980	1985	1990	
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	175				
17. Maximum Hourly Capacity (IFR)	105				
18. Minimum Hourly Capacity (IFR)	50				
19. Practical Annual Capacity (000)	550				

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA
UNCLASSIFIED FAA-AVP-77-26 NL

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Year:	Actual 1974	1980	1985	1990	
Passenger Terminal(s)						
Gates						
1. Aircraft Parking Positions		40	60	80	103	
1a. International Terminal		3	3	3	3	
2. Wide Body Parking Positions		20	30	40	50	
2a. International Terminal		3	3	3	3	
3. Gates (Passenger Exits)		40	60	80	103	
3a. International Terminal		3	3	3	3	
Ticket Counters						
4. Linear Feet		330				
4a. International Terminal						
5. Stations		53				
5a. International Terminal						
Baggage Claim						
6. Public Area (sq ft)		15000	20400	31400	40400	
6a. International Terminal						
7. Equipment Types		5 30' dia. carousels				
8. Equipment Capacity (bags/min)		300				
8a. International Terminal						
Security Inspection						
9. Parallel Passenger Servers		4				
9a. International Terminal		1	1	1	1	
10. Manual (Carry On Baggage)		1				
10a. International Terminal		1	0	0	0	
11. X-ray (Carry On Baggage)		3				
11a. International Terminal		0	1	1	1	

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1974	1980	1985	1990	
	Terminal Area (000 sq ft)					
12.	Total Area	86.5	1214	1860	2412	
12a.	International Terminal	31.5	31.5	31.5	31.5	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	3000	3750	5750	7450	
14.	Annual (000)	7500	9400	14400	18700	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)				117	
16.	Apron Area (000 sq ft)				600	
17.	Aircraft Parking Positions				9	
18.	Truck Loading Docks				9	
19.	Cargo Loading Type ____Manual	____Semi-Automatic		____Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0				
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					

Miscellaneous Data

23.	Percentage of Passengers Who Use Curb Then Parking Lot	
24.	Percentage of Passengers Who Use Curb Only	
25.	Average Length of Stay of Car in Parking Lot	
26.	Number of Checked Bags per Passenger	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1974	1980	1985	1990	
	Automobile Parking Spaces					
1.	Total Public	4668	7500	11500	15000	
1a.	Short Term	81	0	0	0	
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2750	2750	4350	4350	
	Curb Frontage					
4.	Lineal Feet	2950				
4a.	Enplaned	1400				
4b.	Deplaned	1550				
5.	International Terminal Lineal Feet	575				
5a.	Enplaned					
5b.	Deplaned					
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	
7.	Subway, Rail, Other	No	No	No	No	
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	72 %				
9.	Taxi	16 %				
10.	Bus (Includes Hotel Shuttles, Limos)	8 %				
11.	Subway, Rail, Other	4 %				
	Percentage of People Entering Airport					
12.	Passengers	30 %				
13.	Visitors, Well Wishers, Greeters	20 %				
14.	Employees	50 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	0.90				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/1/4	Airplane Parking Apron	63 Gates	1990	21250	1974
3/12/4	Terminal Facilities	1540000 sq ft	1990	49434	1974
4/1/3	Parking Decks	10600 slots	1985	30740	1974
	People Mover System	9600000 pax	1990	37500	1974
4/4/3	Roadway Changes	1600 veh/hr	1990	19750	1974
	Mobile Lounges	3900000 pax	1990	4000	1974

GENERAL AVIATION AIRPORT DATA LIST

Airport Name **St. Paul Downtown (Holman Field)** Code STP

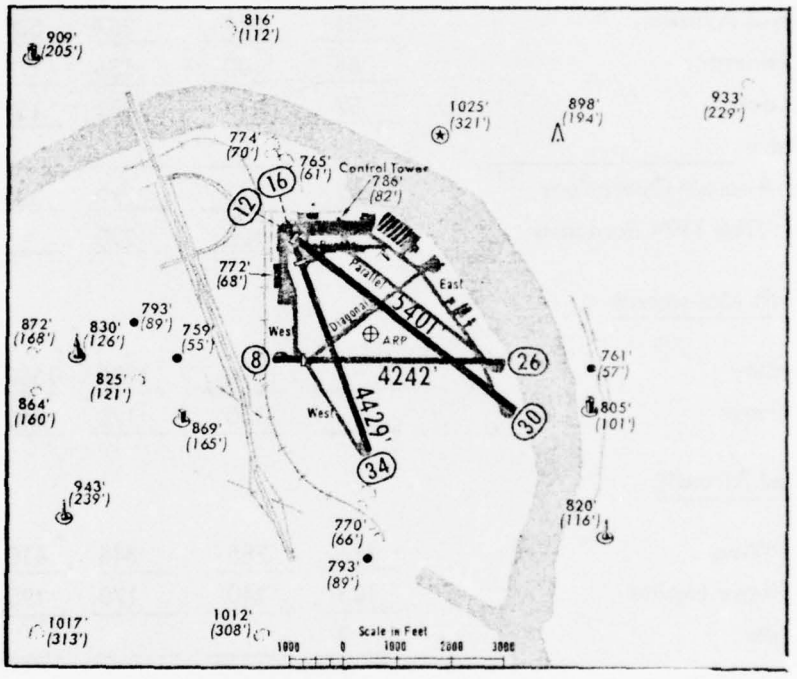
Hub Name **Minneapolis-St. Paul** Master Plan Status 1974 (Interim)

Approximate Distance and Direction to Hub CBD 6 Miles West (Minneapolis)

Approximate Distance and Direction to Hub Air Carrier Airport 10 Miles West

Name of That Airport Wold-Chamberlain Field Number of Commuters 1

Approximate Number of Employees at Airport 250 as of 1975



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Expansion of Holman Field to include a new primary runway 14/32, 6500-7000 feet in length, will probably take place making St. Paul Downtown Airport the primary G.A. reliever airport for MSP. Plans have support of community, users, and MAC. Source for data, unless otherwise stated, is Interim Report Master Plan Study, Saint Paul Downtown Airport, prepared for MAC by Speas Associates et al., August 1974. Alternative Plan 2 is assumed to be carried out.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1995	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	1	2	3	5	
1a.	Air Taxi					
2.	General Aviation	151	219	267	330	
2a.	Itinerant	64	100	136	178	
2b.	Local	87	119	131	152	
3.	Military					
4.	Total Aircraft Operations	152	221	270	335	
5.	Total FAA 1974 Forecasts		190	270		
	Aircraft Movements					
6.	Peak-Day	-	1190	1390	1650	
7.	Peak-Hour	-	150	170	200	
	Based Aircraft					
8.	Fixed Wing	217	285	344	410	
8a.	Single Engine	105	140	170	195	
8b.	Jets	0				
8c.	Seaplane	1				
9.	Rotary Wing	3				
10.	Total Based Aircraft	221	285	344	410	

STP

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	12	5122			VFR		
2.	30	5401			LOC		
3.	16	3729	0	1985	VFR		
4.	34	4429	0	1985	VFR		
5.	8	3644			VFR		
6.	26	4242					
7.	14	None	7000	1980	VFR		
8.	32	None	7000	1980	ILS		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: Tandem gear - 300,000 lbs.

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage)

0	Class AA	0	Class A	0	Class B
8	Class C	20	Class D	72	Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	No
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	12/30
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1980	1985	1995	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	172	172	172	172	
23.	Maximum Hourly Capacity (IFR)	42	42	42	42	
24.	Practical Annual Capacity (000)	342	320	320	320	

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1995	
1. Parking Apron Area (000 sq ft)	-	260	354	460	
2. Hangar Area (000 sq ft) (Estimated)	70				
3. T-Hangar Parking Positions	-				
4. Conventional Hangars	7				
5. Terminal Building Area (sq ft)	5000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1995	
1. Automobile Parking Spaces	300	214	273	351	
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	No				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7,8/3	Runway	None	1980	6385	1973

New 7000 ft. runway 14/32 planned.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Lake Elmo Code 21D

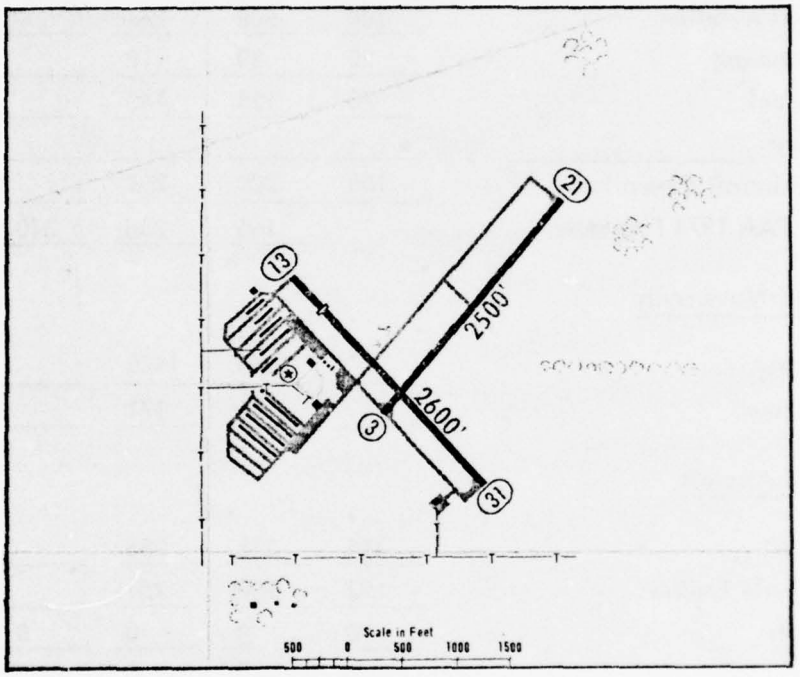
Hub Name Minneapolis-St.Paul Master Plan Status 1974 (Interim)

Approximate Distance and Direction to Hub CBD 18 Miles Southwest

Approximate Distance and Direction to Hub Air Carrier Airport 20 Miles Southwest

Name of That Airport Wold-Chamberlain Field Number of Commuters None

Approximate Number of Employees at Airport 50 as of 1975



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Lake Elmo is anticipated to remain as a general utility airfield into the near future. The source for the information given herein, unless otherwise noted, is the Interim Report, Lake Elmo Airport Master Plan Study, prepared for Minneapolis-St.Paul Metropolitan Airports Commission (MAC), by R.Dixon Speas Associates, et al., May 1974. Alternative A (general utility) is assumed to be carried out.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi	0				
2.	General Aviation	100	208	264		490
2a.	Itinerant	30	80	119		240
2b.	Local	70	128	145		250
3.	Military					
4.	Total Aircraft Operations	100	208	264		490
5.	Total FAA 1974 Forecasts		165	235	310	
	Aircraft Movements					
6.	Peak-Day		1040	1426		2303
7.	Peak-Hour		126	171		274
	Based Aircraft					
8.	Fixed Wing	155	215	285		535
8a.	Single Engine	152	200	251		415
8b.	Jets	0	0	0	0	0
8c.	Seaplane	0	0	0		0
9.	Rotary Wing					
10.	Total Based Aircraft	155	215	285		535

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	13R	2200			VOR		
2.	31L	2600			VOR		
3.	3	2500			VOR		
4.	21	2500			VOR		
5.	13L	None	3900	1985			
6.	31R	None	3900	1985			
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway 130001b, single wheel gear

11a. Class of This Aircraft: AA A B C (D) E

12. Fleet Mix (Percentage) ___ Class AA 0 Class A 0 Class B 0 Class C 5 Class D 95 Class E

Miscellaneous Airside Data

13.	FAA Tower	No	18.	Unicom	No
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1980	1985		1995
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	126	126			
23.	Maximum Hourly Capacity (IFR)	36				
24.	Practical Annual Capacity (000)	248	248	430		478

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985		1995
1. Parking Apron Area (000 sq ft)	-				
2. Hangar Area (000 sq ft)	-	464	644		1245
3. T-Hangar Parking Positions	-				
4. Conventional Hangars	2				
5. Terminal Building Area (sq ft)	-				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985		1995
1. Automobile Parking Spaces		83	133		250
2. Access Road Capacity (vehicles/hr)	No				
3. Rental Car Service	No				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/5,6/3	Runway	150000 ops/yr	1985	2400	1974

New 3900 ft runway 13L/31R planned.

AIR CARRIER AIRPORT DATA LIST

Airport Name Moisant Field Code MSY

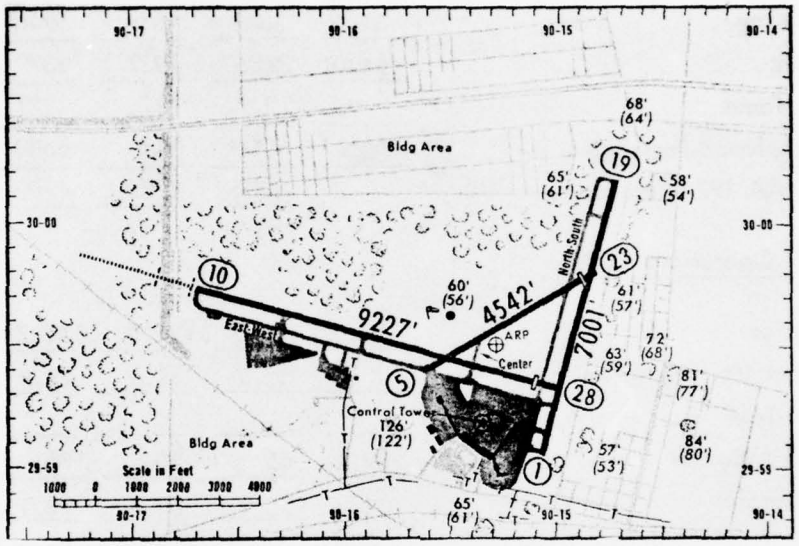
Hub Name New Orleans Master Plan Status None

Approximate Distance and Direction to Hub CBD 15 Miles East

Approximate Number of Employees at Airport 4400 as of 1975

Number of Air Carriers 12 Commuters 4

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter



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MSY is located about 15 miles west of downtown New Orleans at Kerner, LA. The terminal at MSY has recently (1974) undergone a drastic change by the East addition to the terminal, a two-level addition which added 19 new airline departure lounges. Together with an extension of the three-level ticket lobby and a connecting hub to the concourses, the east addition approximately doubled the size of the terminal. Airport management feels that MSY now has sufficient capacity, both terminals and airside, for the foreseeable future. The only major change at MSY that is anticipated is the expansion of the entrance roadway to four lanes of traffic. Plans are also proceeding for the construction of an air cargo facility, LaFon AirPark, just west of the airport.

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PART 1. DEMAND FORECASTS

		Actual Year: 1974	1980	1985	1990	
	Enplaned Passengers (000)					
1.	Air Carrier	2194	3650	5080	6510	
2.	Commuter (Including Air Taxi)	30	50	70	90	
2a.	Air Taxi	0	0	0	0	
3.	Connecting	222	370	515	660	
4.	Originating	2002	3330	4635	5940	
5.	Domestic	2149	3676	4977	6379	
6.	International	75	124	173	221	
7.	Total Enplaned Passengers	2224	3700	5150	6600	
8.	Total FAA 1974 Forecasts		3200	4030	4900	
	Aircraft Operations (000)					
9.	Air Carrier	91.1	101.5	122.0	145.2	
10.	Commuter (Including Air Taxi)	13.7	15.2	18.3	22.8	
10a.	Air Taxi					
11.	General Aviation	39.4	65	75	85	
11a.	Itinerant	33.8	55.9	64.5	73.1	
11b.	Local	5.6	9.1	10.5	11.9	
12.	Military	2.8	2.8	2.8	2.8	
13.	Total Aircraft Operations	147.0	184.5	218.1	255.8	
14.	Total FAA 1974 Forecasts		224	318	418	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	1350				
16.	Aircraft	28	51	58	65	
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	26.0	47.7	73.5	99.2	

MSY

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	1	7001			ILS-I
2.	19	7001			ILS-I
3.	5	4542			VOR
4.	23	4256			VOR
5.	10	9227			ILS-II
6.	28	8527			ILS-I
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 3 Class AA 11 Class A 50 Class B 7 Class C 13 Class D 16 Class E

	Year:	Actual 1974	1980	1985	1990	
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	85	85	85	85	
17.	Maximum Hourly Capacity (IFR)	65	65	65	65	
18.	Minimum Hourly Capacity (IFR)					
19.	Practical Annual Capacity (000)	300	300	300	300	

MSY

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Year: Actual 1975	1980	1985	1990	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	47	47	47	47	
1a. International Terminal	0	0	0	0	
2. Wide Body Parking Positions	8	8	8	8	
2a. International Terminal	0	0	0	0	
3. Gates (Passenger Exits)	47	47	47	47	
3a. International Terminal	0	0	0	0	
Ticket Counters					
4. Linear Feet	702	702	702	702	
4a. International Terminal	0	0	0	0	
5. Stations	126	126	126	126	
5a. International Terminal	0	0	0	0	
Baggage Claim					
6. Public Area (sq ft)	22000	22000	22000	22000	
6a. International Terminal	0	0	0	0	
7. Equipment Types	7 conveyers				
8. Equipment Capacity (bags/min)	420	420	420	420	
8a. International Terminal	0	0	0	0	
Security Inspection					
9. Parallel Passenger Servers	4	4	4	4	
9a. International Terminal	0	0	0	0	
10. Manual (Carry On Baggage)	0	0	0	0	
10a. International Terminal	0	0	0	0	
11. X-ray (Carry On Baggage)	4	4	4	4	
11a. International Terminal	0	0	0	0	

MSY

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1975	1980	1985	1990	
	Terminal Area (000 sq ft)					
12.	Total Area	800	800	800	800	
12a.	*International Terminal*	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	3200	3200	3200	3200	
14.	Annual (000)	8000	8000	8000	8000	
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	20	20	20	20	
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions	2	3	3	3	
18.	Truck Loading Docks					
19.	Cargo Loading Type	X Manual		Semi-Automatic		Fully Automatic
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0	0	0	0	
21.	Apron Area (000 sq ft)	96000	96000	96000	96000	
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

MSY

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1974	1980	1985	1990	
	Automobile Parking Spaces					
1.	Total Public	1710	1710	1710	1710	
1a.	Short Term	460	460	460	460	
2.	Rental Car	100	100	100	100	
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	1200	2400	2400	2400	
	Curb Frontage					
4.	Lineal Feet	1500	1500	1500	1500	
4a.	Enplaned	750	750	750	750	
4b.	Deplaned	750	750	750	750	
5.	International Terminal Lineal Feet	0	0	0	0	
5a.	Enplaned	0	0	0	0	
5b.	Deplaned	0	0	0	0	
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	
7.	Subway, Rail, Other	No	No	No	No	

Passenger Modal Split

8.	Automobile (Includes Rental Car)	70.0 %
9.	Taxi	13.2 %
10.	Bus (Includes Hotel Shuttles, Limos)	16.8 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	50 %
13.	Visitors, Well Wishers, Greeters	50 %
14.	Employees	0 %

Vehicle Count

15. Number of Vehicles Per Passenger _____

MSY

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Lakefront Code NEW

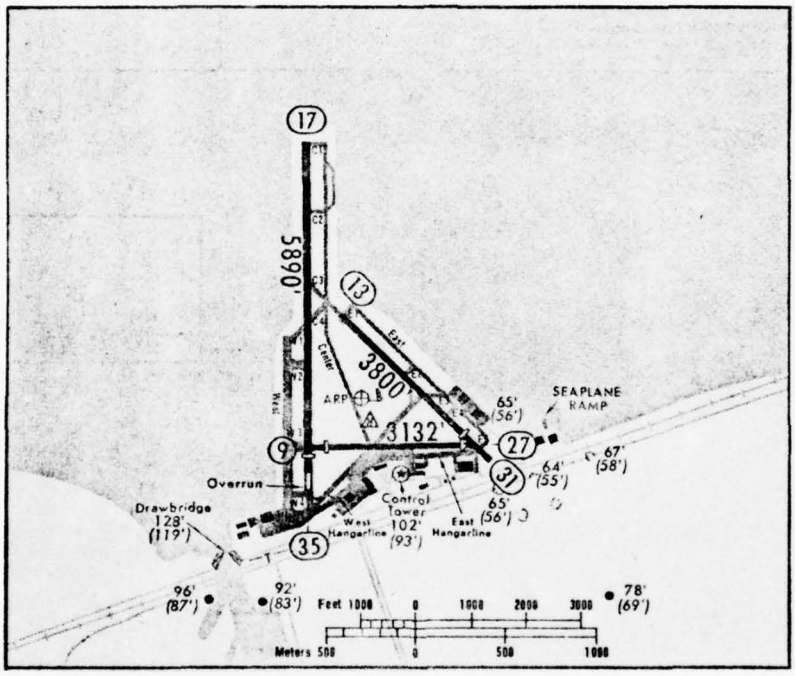
Hub Name New Orleans Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 5 miles Southwest

Approximate Distance and Direction to Hub Air Carrier Airport 20 miles West

Name of That Airport New Orleans International Number of Commuters 2

Approximate Number of Employees at Airport 500 as of 1975



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Lakefront Airport (formerly New Orleans Airport), NEW, is only five miles (about 20 minutes driving time) from downtown New Orleans. It is built on an artificial peninsula extending from the mainland out into Lake Pontchartrain. It has recently completed a master plan which, although delayed, will probably be put into effect.

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The plans call for the expansion of runways further into the lake, which is minimizing local opposition to enlargement of the airport. It is basically a general aviation airport, although commuters do utilize it.

The first phase of the development program will extend the present 5,600 ft N/S runway to 7,000 ft, and add a new 3,700 ft N/S runway. The second phase, going to about 1980, calls for the construction of another runway in a general ENE/WSW direction, about one mile offshore. By 1990 a new runway, parallel to the new ENE runway will be built, in addition to expanding the main N/S runway to 8,500 ft. This redesign of Lakefront will shift the aircraft operation patterns away from the residential areas near the airport to over-water areas.

NEW

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	4	7	7	9	
1a.	Air Taxi					
2.	General Aviation	252	410	477	543	
2a.	Itinerant	119	164	191	217	
2b.	Local	133	246	286	326	
3.	Military La. N. G.	8	7	7	7	
4.	Total Aircraft Operations	264	424	491	559	
5.	Total FAA 1974 Forecasts		353	500	662	
	Aircraft Movements					
6.	Peak-Day	497	602	699	796	
7.	Peak-Hour	183	222	258	293	
	Based Aircraft					
8.	Fixed Wing	235	500	566	632	
8a.	Single Engine	173	403	449	496	
8b.	Jets					
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing	19	38	43	48	
10.	Total Based Aircraft	254	538	609	680	

NEW

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9	2822			VOR		
2.	27	2932			VOR		
3.	13	3800			VOR		
4.	31	3163			VOR		
5.	17R	5890	7000	1975+	LOC	ILS	1975+
6.	35L	5600	8500	1990	VOR		
7.	18L/36R	None	3700	1975+			
8.	7R/25L	None	3700	1980			
9.	7L/25R	None	7000	1990			
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: BAC 111

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0.03 Class B; 2 Class C; 38 Class D; 60 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	No
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	17/35
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	Yes			

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	163	222	222	340	
23.	Maximum Hourly Capacity (IFR)	60	60	60	60	
24.	Practical Annual Capacity (000)	230	443	443	680	

NEW

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1980	1985	1990	
1. Parking Apron Area (000 sq ft)	0	0	0	0	
2. Hangar Area (000 sq ft)	557	2428	2777	3125	
3. T-Hangar Parking Positions	0	0	0	0	
4. Conventional Hangars	10	21	24	27	
5. Terminal Building Area (sq ft)	42040	42040	42040	42040	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1980	1985	1990	
1. Automobile Parking Spaces	183	230	265	300	
2. Access Road Capacity (vehicles/hr)	1200	1200	1200	1200	
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	Yes	Yes	Yes	Yes	
5. Rail, Subway, Other Access	Helicopter, Waterlink				

NEW

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/5,6/3	Runway	1000 ft	1975+	14956	1975
Extension of existing 17R/35L to 7000 ft. *					
2/7/3	Runway	3700 ft	1975+		
Construction of a new parallel NS runway 3700 ft.*					
2/8/3	Runway	3700 ft	1980+	8399	1975
Construction of a new crosswind runway, 3700 ft.*					
2/6/3	Runway	1500	1990+		
Extension of primary runway to 8500 ft. *					
2/9/3	Runway	7000	1990+		
Construction of new crosswind runway, 7000 ft. *					

* Runway construction and extension costs include costs of associated taxiways, landfill, etc.

NEW

AIR CARRIER AIRPORT DATA LIST

Airport Name Newark International Code EWR

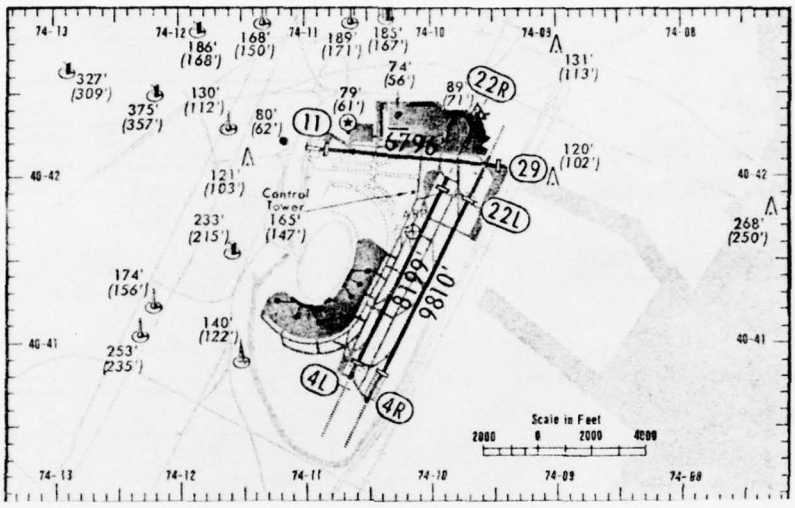
Hub Name New York Master Plan Status None

Approximate Distance and Direction to Hub CBD 16 Miles Northeast

Approximate Number of Employees at Airport _____ as of _____

Number of Air Carriers 10 Commuters 3

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter



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Terminals A and B are completed and in use; Terminal C is not used at this time. Terminal figures included herein are for Terminals A and B only. The airports former terminal, renamed the North Terminal serves as an international arrivals building and handles supplemental airline flights.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1977	1978	1981	1986
	Enplaned Passengers (000)					
1.	Air Carrier	3191				
2.	Commuter (Including Air Taxi)	35				
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	3034				
6.	International	192				
7.	Total Enplaned Passengers	3226				
8.	Total FAA 1974 Forecasts		4197	4480	5302	6619
	Aircraft Operations (000)					
9.	Air Carrier	116.5				
10.	Commuter (Including Air Taxi)	25.4				
10a.	Air Taxi	13.5				
11.	General Aviation	28.6				
11a.	Itinerant	28.6				
11b.	Local	0				
12.	Military	0.6				
13.	Total Aircraft Operations	171.1				
14.	Total FAA 1974 Forecasts		268	281	333	477
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	63				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4R	8610			ILS-II
2.	22L	8210			ILS-I
3.	4L	7449			ILS-I
4.	22R	7749			NDB
5.	11	6596			VOR
6.	29	6514			VFR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 30 Class AA+A ____ Class A 39 Class B
14 Class C 17 Class D+E ____ Class E

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	81				
17.	Maximum Hourly Capacity (IFR)	67				
18.	Minimum Hourly Capacity (IFR)					
19.	Practical Annual Capacity (000)	315				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	32				
1a. International Terminal	0				
2. Wide Body Parking Positions					
2a. International Terminal	0				
3. Gates (Passenger Exits)	32				
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet	820				
4a. International Terminal	0				
5. Stations	127				
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)	47750				
6a. International Terminal	0				
7. Equipment Types	16 conveyor/carousel type				
8. Equipment Capacity (bags/min)	1000				
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers	6				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	6				
11a. International Terminal	0				

EWR

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1976				
	Terminal Area (000 sq ft)					
12.	Total Area	184				
12a.	*International Terminal*	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour					
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	257				
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions					
18.	Truck Loading Docks					
19.	Cargo Loading Type ____ Manual	____ Semi-Automatic	____ Fully Automatic			
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)					
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
Automobile Parking Spaces					
1. Total Public	5700				
1a. Short Term					
2. Rental Car	200				
Access Roadway					
3. Entrance Capacity (vehicles/hour)					
Curb Frontage					
4. Lineal Feet	3300				
4a. Enplaned	1650				
4b. Deplaned	1650				
5. International Terminal Lineal Feet	0				
5a. Enplaned	0				
5b. Deplaned	0				
Mass Transit					
6. Bus	Yes				
7. Subway, Rail, Other	No				

Passenger Modal Split

8. Automobile (Includes Rental Car)	____%
9. Taxi	____%
10. Bus (Includes Hotel Shuttles, Limos)	____%
11. Subway, Rail, Other	____%

Percentage of People Entering Airport

12. Passengers	____%
13. Visitors, Well Wishers, Greeters	____%
14. Employees	____%

Vehicle Count

15. Number of Vehicles Per Passenger ____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

None planned.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Republic Code FRG

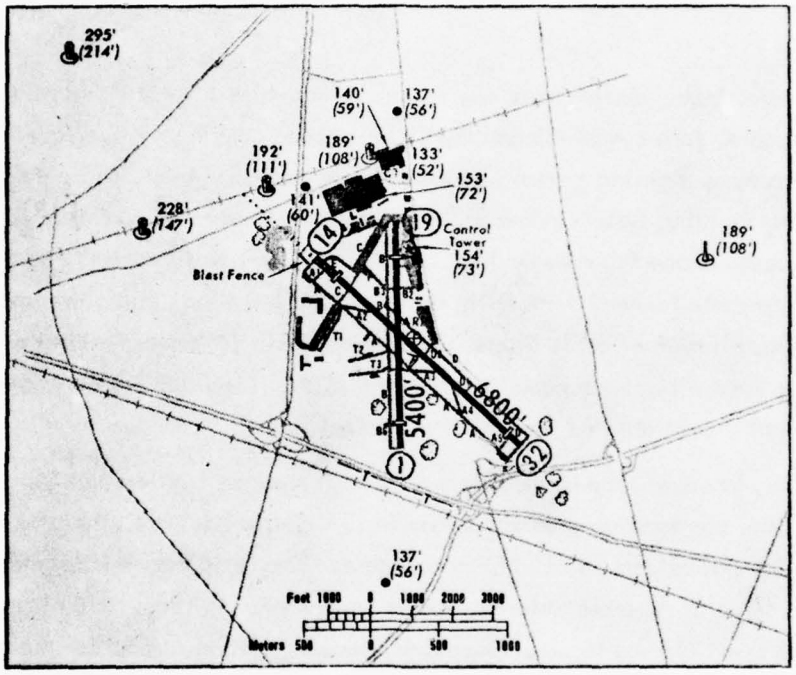
Hub Name New York Master Plan Status 1971

Approximate Distance and Direction to Hub CBD 34 miles West

Approximate Distance and Direction to Hub Air Carrier Airport 21 miles West

Name of That Airport John F. Kennedy International Number of Commuters 0

Approximate Number of Employees at Airport 141 as of 1976



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Republic Airport, located in Farmingdale, New York, is in the hub of Long Island's growing industrial complex. It is also in the middle of the ninth largest Standard Metropolitan Statistical Area in the United States, with a total population of 2.7 million. The airport is bounded by four major highways which provide easy access to all points on the field. The Long Island Railroad has a station located on the airport property and provides a convenient and inexpensive rail transportation link to both New York City and eastern Long Island.

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The airport is operational seven days a week, 24 hours a day. It provides continuous crash/fire/rescue service, snow removal, and airport security. Two full service Fixed Base Operators provide 24 hour fuel and line services. The FAA control tower is operational daily between 0700 and 2300 hours.

The airport was acquired by the New York State Metropolitan Transportation Authority (MTA) on March 31, 1969, from the Republic Aviation Corporation. Republic still maintains a manufacturing facility at the airport. Currently it is the production site for the USAF's A-10 close air support weapons system, but the employee count of Republic is not considered to be a part of the airport population for the purpose of this survey.

Several improvements have been made to Republic Airport since MTA's take-over. For example, runways 14-32 and 01-19 have been completely overlayed, a high intensity runway lighting system was installed on runway 14-32, and a medium intensity runway lighting system was installed on runway 01-19. A complete ILS was installed and commissioned to runway 14. A lighted wind-T was installed and commissioned, a complete taxiway system was designed and installed, and other improvements such as installation of VASI lights rotating beacon, perimeter fencing and improved parking have all been accomplished by the MTA. Land acquisitions were completed and are now available for further development.

Now, however, the state's fiscal crisis, the general softening of the national economy, and the corresponding uncertainties in GA operational activity have caused the pace of MTA's development of FRG to decrease. Nevertheless, the potential for the facility to serve as a viable aviation link is quite high. In fact, several investors have indicated a willingness to acquire property leases from the airport for the purpose of constructing their own appropriate facilities.

One major blessing for the airport is that the particular surroundings of the field are not so noise sensitive as those around other similar airfields in the New York area. This provides considerable incentive to develop the airfield to its full potential. The unfortunate financial status of the airport owner, however, counterbalances this optimistic perspective.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1976	1978	1981	1986
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	3				
1a.	Air Taxi	3				
2.	General Aviation	195				
2a.	Itinerant	97				
2b.	Local	98				
3.	Military USAF	2				
4.	Total Aircraft Operations	200				
5.	Total FAA 1974 Forecasts		156	218	250	338
	Aircraft Movements					
6.	Peak-Day	1114				
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	420				
8a.	Single Engine	354				
8b.	Jets	4				
8c.	Seaplane	2				
9.	Rotary Wing	5				
10.	Total Based Aircraft	425				

FRG

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	14	6156	Same		ILS		
2.	32	6826	Same		LOC		
3.	1	5516	Same		NDB		
4.	19	4716	Same		VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: C-5A

11a. Class of This Aircraft: (AA) A B C D E

12. Fleet Mix (Percentage): 0 Class AA, 0 Class A, 0 Class B, 5 Class C, 25 Class D, 70 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18. Unicom	Yes
14.	Hours of Service	7am-11pm	19. Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20. Primary Instrument Runway	14
16.	Vortac Station	No	21. Joint Use	No
17.	Weather Station	Yes		

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	133				
23.	Maximum Hourly Capacity (IFR)	61				
24.	Practical Annual Capacity (000)					

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1977	1980	1985	
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)	115	172	192	192	
3. T-Hangar Parking Positions	0	40	40	70	
4. Conventional Hangars	3	6	7	7	
5. Terminal Building Area (sq ft)	0	30000	30000	30000	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	330				
2. Access Road Capacity (vehicles/hr)	4 major highways surround the airport				
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	Rail				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/2,4/2	Hangar	17250 sq. ft	1977	750	1976

Conventional hangar of approximate size 150' x 115' may be built by the MTA for lease to an FBO.

3/2,4/2	Hangars	20000 sq. ft	1977	250	1976

Two conventional hangar/office complexes, each having 10,000 sq. ft may be built by the MTA for FBO's.

3/2,4/3	Hangar	20000 sq. ft	1980	500	1976

One conventional hangar may be built by the MTA for lease to an FBO.

3/3/2	T-hangar	40 positions	1977	230	1976

T-hangars for MTA lease may be built.

3/3/4	T-hangar	30 positions	1985

Additional T-hangars for MTA lease are being considered.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Westchester County Code HPN

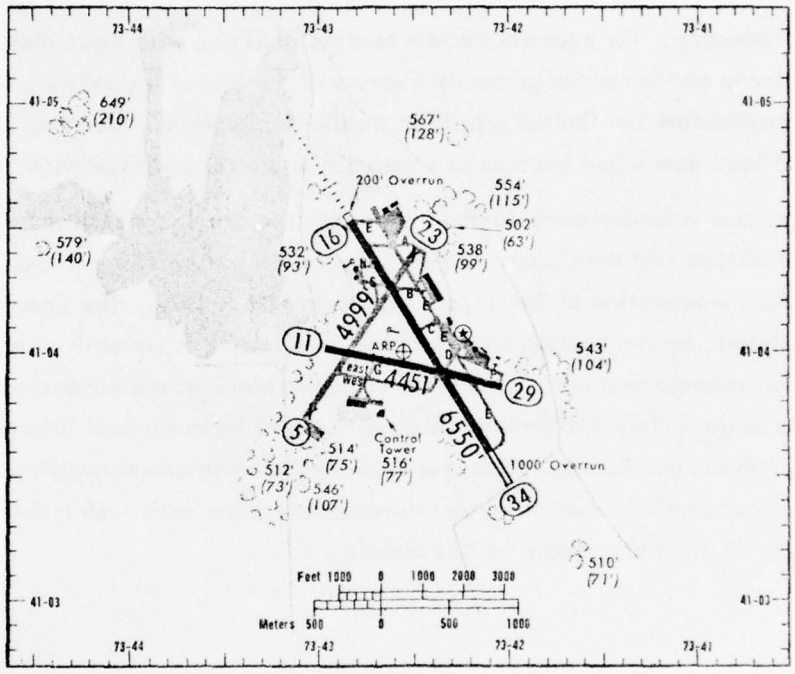
Hub Name New York Master Plan Status 1971

Approximate Distance and Direction to Hub CBD 25 miles Southwest

Approximate Distance and Direction to Hub Air Carrier Airport 21 miles Southwest

Name of That Airport LaGuardia Number of Commuters 3

Approximate Number of Employees at Airport 865 as of 1975



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Westchester County Airport is situated on approximately 700 acres of land situated just east of Rye Lake in the towns of Harrison, Rye, and North Castle in New York state. There are three runways at the airport, but presently only two are in use. The third is in need of resurfacing. The buildings at the airport include large modern hangars, a new control tower, a relatively small and somewhat dated terminal, and

assorted smaller hangars, pump houses and a fire station. The airport is small by regional standards, but serves the area quite well as a major general aviation facility. It is also served by one regional air carrier. The airport is open 24 hours per day with radar, emergency equipment, and ambulance operations available.

The airport is situated in a rather wealthy suburban area of New York City. Consequently, there is much corporate aviation at the airport. Unfortunately the affluency of the surrounding communities and the rather high noise levels associated with corporate aviation have not mixed well. As a result, the long range master planning of the airport has been minimal, but only because a "one step at a time" philosophy is necessary. For example, a new terminal building with associated apron taxiways and runup pad is needed primarily because of the age of the existing facility but also to accommodate the limited growth in transient operations. However, firm plans have not been developed because of community pressures and resistance.

The issue is further complicated by the fact that the lease between the County of Westchester and the County Airport Corporation (a subsidiary of Gulf Oil Corporation) for the operation of the airport expires in March 1977. The County Board of Legislators, in conjunction with the Executive branch is currently studying the many airport management options, and, after public hearings are conducted throughout the county, they will decide which option will be in the best interests of the people of Westchester County. This resolution of the management question will naturally have a dramatic impact on airport development. But until such a determination is made, little can be forecast for this airport.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1976	1980	1985	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	12		11		
1a.	Air Taxi					
2.	General Aviation	202		464		
2a.	Itinerant	125		264		
2b.	Local	77		200		
3.	Military NY Air National Guard	5		8		
4.	Total Aircraft Operations	219		483		
5.	Total FAA 1974 Forecasts		280	344	489	
	Aircraft Movements					
6.	Peak-Day	1086				
7.	Peak-Hour	139				
	Based Aircraft					
8.	Fixed Wing	375				
8a.	Single Engine	180				
8b.	Jets	97				
8c.	Seaplane	0				
9.	Rotary Wing	6				
10.	Total Based Aircraft	381				

HPN

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	34	6550	Same	-	VFR	ILS	1976
2.	16	6550	Same	-	ILS		
3.	11	4451	Same	-	VFR		
4.	29	4451	Same	-	VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-727-100

11a. Class of This Aircraft: AA (A) B C D E

12. *Fleet Mix (Percentage)*: 0 Class AA; 0 Class A; 0 Class B; 2 Class C; 98 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	16
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	Yes			

		Actual	Forecast			
	Year:	1970				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	124				
23.	*Maximum Hourly Capacity (IFR)*	62				
24.	Practical Annual Capacity (000)	273				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
1. Parking Apron Area (000 sq ft)	800				
2. Hangar Area (000 sq ft)	409				
3. T-Hangar Parking Positions	0				
4. Conventional Hangars	11				
5. Terminal Building Area (sq ft)	20000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
1. Automobile Parking Spaces	4000				
2. Access Road Capacity (vehicles/hr)	One lane each direction, 35 mph				
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/	Taxiways	PANCAP		1000	1976

Additional taxiways and re-conditioning of existing ones.

2/1	Runup pad	PANCAP		400	1976

A runup pad for runway 34 will be added to allow turbine-powered aircraft to pass piston aircraft enroute to runway 34 if necessary.

3/5	Building	22000 sq. ft		3500	1976

A new terminal building is needed. Overall size may not be increased substantially but modernization is needed.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Islip MacArthur Code ISP

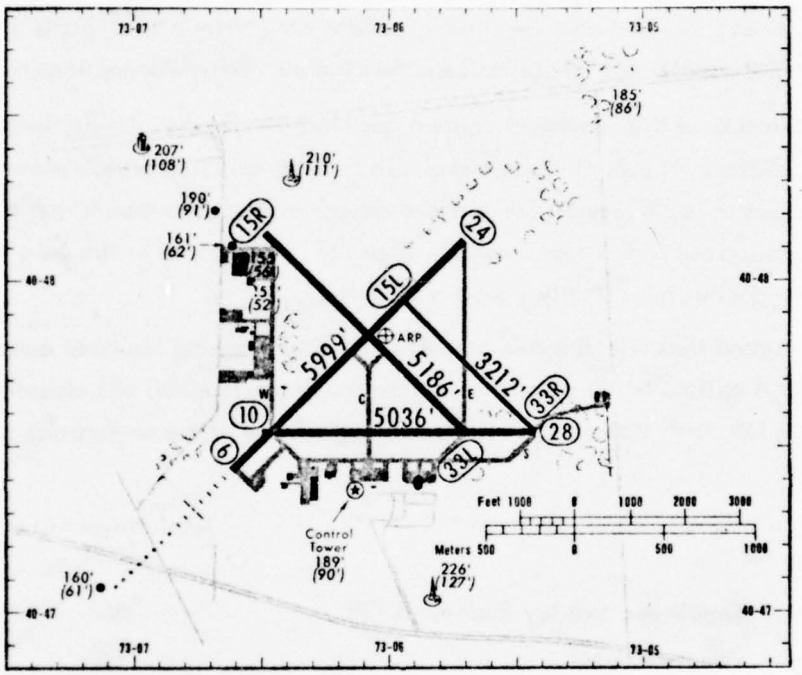
Hub Name New York Master Plan Status 1971

Approximate Distance and Direction to Hub CBD 50 Miles West

Approximate Distance and Direction to Hub Air Carrier Airport 33 Miles West

Name of That Airport John F. Kennedy International Number of Commuters 1

Approximate Number of Employees at Airport 600 as of 1975



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Islip MacArthur Airport (ISP) is located 50 miles east of New York City on Long Island. The Long Island Expressway passes very near the northern field boundary, and so does a major east-west rail connector; also, Sunrise Highway is being improved to a four-lane limited access artery. This provides two major transportation links that may well play major roles in future ISP development. A current master plan development is under application awaiting passage of supplemental ADAP Bill.

As the population center on Long Island moves eastward, there is an increasing demand for air carrier service as well as for GA capabilities. Even now ISP is

served by two air carriers. Nevertheless, this type of activity amounts to only 3 percent of the airport's operations. Consequently, in comparison to the major air carrier airports in the New York hub, ISP is more appropriately classified as a GA airport for the purposes of this study.

ISP is owned by the town of Islip, and both the town and the airport operators are very much aware of the growing demand for air carrier service. The viability of such demand will have to be balanced against the noise pollution problems that are bound to increase, especially for the communities north of the field. Nevertheless, the possibility of increased revenues from expanded air carrier operations is attractive to the town and popular with those citizens desiring air carrier connections.

Because of this somewhat unusual combination of possibilities, long range planning is difficult at ISP. Instead a realistic demand-oriented growth pattern has emerged. Several improvements are planned for completion between now and 1978. These are summarized in the table below. They are not repeated in the data form because they are not specifically capacity oriented.

Beyond those items shown below, little firm planning has been accomplished. One of several options is the erection of a new passenger terminal of unspecified dimension on the north side of the field to take advantage of the surface transportation links.

		Total Project Cost ($000)
1.	Repair and overlay Runway 10/28	667
2.	Perimeter Road	356
3.	Grooving Runway 6/24	200
4.	West taxiway drainage	149
5.	Widen and strengthen taxiway C	163
6.	Land acquisition for clear zone: Runway 6/24	396
7.	Upgrade fire fighting capability	150
8.	Addition to fire and rescue building	132
9.	Security fence	9
	Total	2222

The ISP airport management takes great pride in being an air carrier airport and in the fact that ISP meets FAR Part 139 (Airport Certification) with no waivers. They are confident the airport can continue to provide valuable and viable air transportation services to the surrounding areas.

PART 1. DEMAND FORECASTS

	Year:	Actual 1975	Forecast 1977	1978	1981	1986
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	11				
1a.	Air Taxi					
2.	General Aviation	307				
2a.	Itinerant	138				
2b.	Local	169				
3.	Military NY Air Nat'l Guard	10				
4.	Total Aircraft Operations	328				
5.	Total FAA 1974 Forecasts		393	411	487	699
	Aircraft Movements					
6.	Peak-Day	2063				
7.	Peak-Hour	298				
	Based Aircraft					
8.	Fixed Wing	267				
8a.	Single Engine	231				
8b.	Jets	3				
8c.	Seaplane	2				
9.	Rotary Wing	47				
10.	Total Based Aircraft	314				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	6	5999	6999	1980	ILS		
2.	24	5999	6999	1980	LOC	ILS	1976
3.	33L	5186	6186	1980	VFR		
4.	15R	5186	6186	1980	VFR		
5.	33R	3212	Same	-	VFR		
6.	15L	3212	Same	-	VFR		
7.	10	5036	Same	-	VFR		
8.	28	5036	Same	-	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-727

11a. Class of This Aircraft: (AA) A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 14 Class B; 13 Class C; 9 Class D; 61 Class E; plus 3% Mil S.E. and M.E. Rotary Wing

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	6
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	Yes			

Airside Capacities (Operations)

		Year: Actual 1975		Forecast		
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)	61*				
24.	Practical Annual Capacity (000)					

* ASI estimate.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	770				
2. Hangar Area (000 sq ft)	78				
3. T-Hangar Parking Positions	36				
4. Conventional Hangars	8				
5. Terminal Building Area (sq ft)	42213				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	1160				
2. Access Road Capacity (vehicles/hr)	4-lane; divided; 35 mph				
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	Yes (Limousine service)				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

Current expansion data is contained in the Airport General Description. It is not listed here because it is not directly associated with capacity improvements.

AIR CARRIER AIRPORT DATA LIST

Airport Name John F. Kennedy International Code JFK

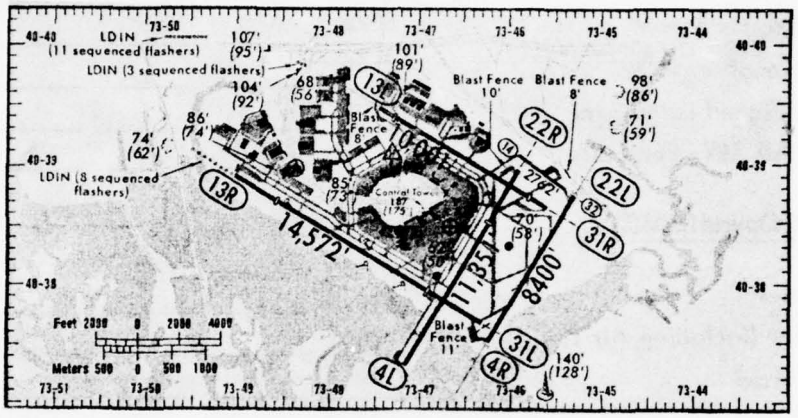
Hub Name New York Master Plan Status None

Approximate Distance and Direction to Hub CBD 10 Miles Northwest

Approximate Number of Employees at Airport _____ as of _____

Number of Air Carriers 52 Commuters 4

Terminal Type: X Linear X Pier X Satellite ____ Transporter



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1978	1981	_____	1986
	Enplaned Passengers (000)					
1.	Air Carrier	10108				
2.	Commuter (Including Air Taxi)	80				
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	5022				
6.	International	5166				
7.	Total Enplaned Passengers	10188				
8.	Total FAA 1974 Forecasts		13001	15374		17156
	Aircraft Operations (000)					
9.	Air Carrier	293.9				
10.	Commuter (Including Air Taxi)	34.1				
10a.	Air Taxi	9.6				
11.	General Aviation	15.0				
11a.	Itinerant	15.0				
11b.	Local	0				
12.	Military	0.5				
13.	Total Aircraft Operations	309.5				
14.	Total FAA 1974 Forecasts		406	491		727
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	505		2000		

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4R	8400			ILS-II
2.	22L	8400			ILS-I
3.	4L	11351			ILS-I
4.	22R	8332			ILS-I
5.	13R	11968			VOR
6.	31L	11250			ILS-I
7.	13L	8999			ILS-I
8.	31R	8968			ILS-I
9.	14	2762			VFR
10.	32	2762			VFR
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 66 Class AA+A ____ Class A 23 Class B
1 Class C ____ Class D+E ____ Class E

	Actual	Forecast			
Year:	1976				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	80				
17. Maximum Hourly Capacity (IFR)	65				
18. Minimum Hourly Capacity (IFR)	56				
19. Practical Annual Capacity (000)	260				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:					
Passenger Terminal(s)*					
Gates					
1. Aircraft Parking Positions					
1a. International Terminal					
2. Wide Body Parking Positions					
2a. International Terminal					
3. Gates (Passenger Exits)					
3a. International Terminal					
Ticket Counters					
4. Linear Feet	7000				
4a. International Terminal					
5. Stations	1200				
5a. International Terminal	500				
Baggage Claim					
6. Public Area (sq ft)					
6a. International Terminal					
7. Equipment Types					
8. Equipment Capacity (bags/min)					
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers					
9a. International Terminal					
10. Manual (Carry On Baggage)					
10a. International Terminal					
11. X-ray (Carry On Baggage)					
11a. International Terminal					

*Note: All figures in Part 3 are rough estimates.
Nearly everyone of the nine main terminal buildings has at least some international flights.

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	____	____	____	____	____
	Terminal Area (000 sq ft)					
12.	Total Area	____	____	____	____	____
12a.	International Terminal	____	____	____	____	____
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	____	____	____	____	____
14.	Annual (000)	____	____	____	____	____
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	____	____	____	____	____
16.	Apron Area (000 sq ft)	____	____	____	____	____
17.	Aircraft Parking Positions	____	____	____	____	____
18.	Truck Loading Docks	____	____	____	____	____
19.	Cargo Loading Type ____ Manual ____ Semi-Automatic ____ Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	____	____	____	____	____
21.	Apron Area (000 sq ft)	____	____	____	____	____
22.	Hangar Area (sq ft)	____	____	____	____	____
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	____				
24.	Percentage of Passengers Who Use Curb Only	____				
25.	Average Length of Stay of Car in Parking Lot	____				
26.	Number of Checked Bags per Passenger	____				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
Automobile Parking Spaces					
1. Total Public	_____	_____	_____	_____	_____
1a. Short Term	_____	_____	_____	_____	_____
2. Rental Car	_____	_____	_____	_____	_____
Access Roadway					
3. Entrance Capacity (vehicles/hour)	_____	_____	_____	_____	_____
Curb Frontage					
4. Lineal Feet	_____	_____	_____	_____	_____
4a. Enplaned	_____	_____	_____	_____	_____
4b. Deplaned	_____	_____	_____	_____	_____
5. International Terminal Lineal Feet	_____	_____	_____	_____	_____
5a. Enplaned	_____	_____	_____	_____	_____
5b. Deplaned	_____	_____	_____	_____	_____
Mass Transit					
6. Bus	_____	_____	_____	_____	_____
7. Subway, Rail, Other	_____	_____	_____	_____	_____

Passenger Modal Split

8. Automobile (Includes Rental Car)	_____%
9. Taxi	_____%
10. Bus (Includes Hotel Shuttles, Limos)	_____%
11. Subway, Rail, Other	_____%

Percentage of People Entering Airport

12. Passengers	_____%
13. Visitors, Well Wishers, Greeters	_____%
14. Employees	_____%

Vehicle Count

15. Number of Vehicles Per Passenger	_____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

AIR CARRIER AIRPORT DATA LIST

Airport Name La Guardia Code LGA

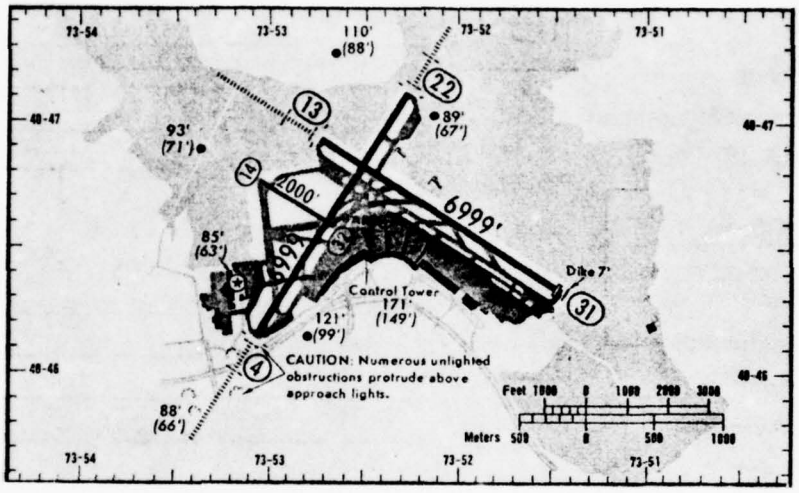
Hub Name New York Master Plan Status None

Approximate Distance and Direction to Hub CBD 8 Miles West

Approximate Number of Employees at Airport _____ as of _____

Number of Air Carriers 14 Commuters 7

Terminal Type: X Linear X Pier ____ Satellite ____ Transporter



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985		
	Enplaned Passengers (000)					
1.	Air Carrier	6852				
2.	Commuter (Including Air Taxi)	44				
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	6852				
6.	International	0				
7.	Total Enplaned Passengers	6896				
8.	Total FAA 1974 Forecasts					
	Aircraft Operations (000)					
9.	Air Carrier	216.3				
10.	Commuter (Including Air Taxi)	23.0				
10a.	Air Taxi	13.8				
11.	General Aviation	46.2				
11a.	Itinerant	46.2				
11b.	Local	0				
12.	Military	1.7				
13.	Total Aircraft Operations	287.2				
14.	Total FAA 1974 Forecasts					
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	2000	3000	4000		
16.	Aircraft	75	84	86		
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	30	60	90		

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4	6999			ILS-I
2.	22	6999			ILS-II
3.	13	6999			ILS-I
4.	31	6820			LOC
5.	14	2000			VFR
6.	32	2000			VFR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 0 Class AA 0 Class A 30 Class B 30 Class C 40 Class D+E Class E

	Actual	Forecast			
Year:	1976				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	80				
17. Maximum Hourly Capacity (IFR)	47				
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)	260				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	41				
1a. International Terminal	0				
2. Wide Body Parking Positions					
2a. International Terminal	0				
3. Gates (Passenger Exits)	36				
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet	575 (rough estimate)				
4a. International Terminal	0				
5. Stations	95				
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)	28700 (rough estimate)				
6a. International Terminal	0				
7. Equipment Types	9 conveyor belts, varying lengths				
8. Equipment Capacity (bags/min)	540				
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers	7				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	7				
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	_____	_____	_____	_____	_____
	Terminal Area (000 sq ft)					
12.	Total Area	_____	_____	_____	_____	_____
12a.	International Terminal	_____	_____	_____	_____	_____
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	_____	_____	_____	_____	_____
14.	Annual (000)	_____	_____	_____	_____	_____
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	_____	_____	_____	_____	_____
16.	Apron Area (000 sq ft)	_____	_____	_____	_____	_____
17.	Aircraft Parking Positions	_____	_____	_____	_____	_____
18.	Truck Loading Docks	_____	_____	_____	_____	_____
19.	Cargo Loading Type _____Manual _____Semi-Automatic _____Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	_____	_____	_____	_____	_____
21.	Apron Area (000 sq ft)	_____	_____	_____	_____	_____
22.	Hangar Area (sq ft)	_____	_____	_____	_____	_____
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	_____				
24.	Percentage of Passengers Who Use Curb Only	_____				
25.	Average Length of Stay of Car in Parking Lot	_____				
26.	Number of Checked Bags per Passenger	_____				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
Automobile Parking Spaces					
1. Total Public	8300				
1a. *Short Term*					
2. Rental Car					
Access Roadway					
3. Entrance Capacity (vehicles/hour)					
Curb Frontage					
4. Lineal Feet					
4a. Enplaned					
4b. Deplaned					
5. International Terminal Lineal Feet					
5a. Enplaned					
5b. Deplaned					
Mass Transit					
6. Bus	Yes				
7. Subway, Rail, Other	No				

Passenger Modal Split

8. Automobile (Includes Rental Car)	____%
9. Taxi	____%
10. Bus (Includes Hotel Shuttles, Limos)	____%
11. Subway, Rail, Other	____%

Percentage of People Entering Airport

12. Passengers	____%
13. Visitors, Well Wishers, Greeters	____%
14. Employees	____%

Vehicle Count

15. Number of Vehicles Per Passenger ____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
Part 4	Auto Parking				

A new multilevel parking garage opposite the main terminal is under construction.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Morristown Municipal Code MMU

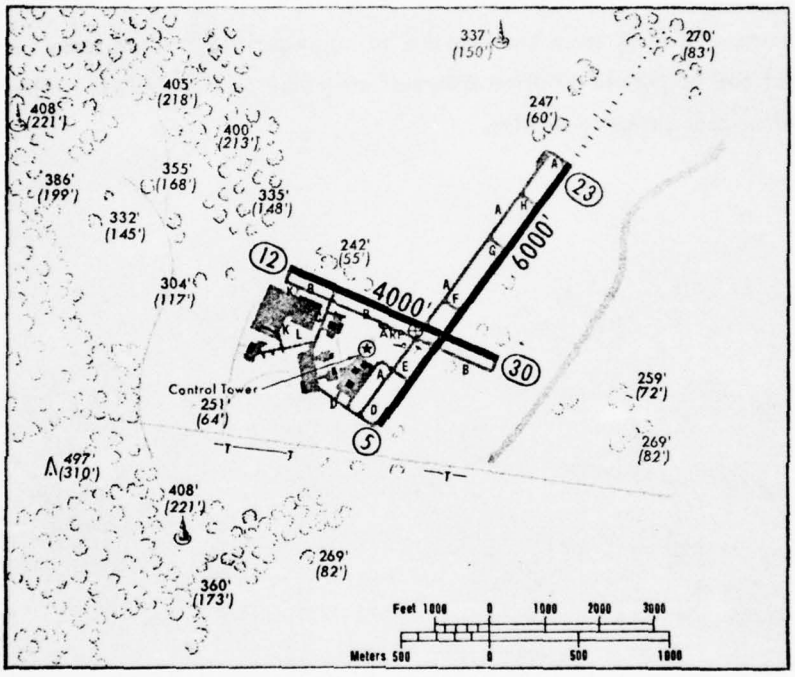
Hub Name New York Master Plan Status None

Approximate Distance and Direction to Hub CBD 25 miles East

Approximate Distance and Direction to Hub Air Carrier Airport 17 miles East

Name of That Airport Newark International Number of Commuters 0

Approximate Number of Employees at Airport 200 as of 1976



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Morristown Municipal Airport (MMU) is a two runway airport situated approximately 25 miles west of New York City. The airport serves the area as a major GA facility. MMU also has service by one certificated air carrier, the New York Airways metropolitan helicopter service, but this amounts to only a small percent of the total activity there.

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Morristown is beset with developmental problems. Community pressure against expansion - in fact, even against normal operations - has been great over recent years. This has complicated the planning process for the airport immeasurably. Consequently, only modest changes can even be contemplated. Even the political atmosphere within the community government which owns the facility is not always pro-airport. For example, the airport employees are not only funded but even pensioned from a source of funds different from all other municipal employees. That source is airport revenue; the airport is literally made to stand alone as a public municipal facility.

In spite of this, some changes are being negotiated, since some very influential general and corporate aviation demands are made on the facility. These changes are described in this airport data list.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1977	1978	1981	1986
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi	0				
2.	General Aviation	218				
2a.	Itinerant	91				
2b.	Local	127				
3.	Military	0				
4.	Total Aircraft Operations	218				
5.	Total FAA 1974 Forecasts		220	231	262	335
	Aircraft Movements					
6.	Peak-Day	1400				
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	300				
8a.	Single Engine	250				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	300				

MMU

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	5	6000	Same	-	NDB		
2.	23	6000	Same	-	ILS		
3.	12	4000	Same	-	VFR		
4.	30	4000	Same	-	VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: BAC 111 (80,000 lb limit)

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage) ____ Class AA ____ Class A ____ Class B ____ Class C ____ Class D ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	0630-2230	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	23
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	133				
23.	Maximum Hourly Capacity (IFR)	61				
24.	Practical Annual Capacity (000)	330				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1978			
1. Parking Apron Area (000 sq ft)	878				
2. Hangar Area (000 sq ft)	150	170			
3. T-Hangar Parking Positions	10	30			
4. Conventional Hangars	7	9			
5. Terminal Building Area (sq ft)	4000	22000			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	500				
2. Access Road Capacity (vehicles/hr)	(1 lane inbound, 25 mph maximum)				
3. Rental Car Service	No				
4. Bus Access	No				
5. Rail, Subway, Other Access	Yes (Helicopter)				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/2,4/2	2 Conventional hangars	20000 sq. ft	1978	2000	1975

Two conventional hangars are planned. Dimensions are not available since final design to tenant specifications are not complete. Each is estimated to contain about 10,000 sq. ft.

3/3/2	T-hangars	20 stalls	1978	150	1975

Two T-hangars will be built with 10 stalls in each.

3/5/2	Terminal	22000 sq. ft	1980	1500	1975

A new terminal to replace the existing facility is planned to accommodate the GA growth and the increasing helicopter service demand.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Teterboro Code TEB

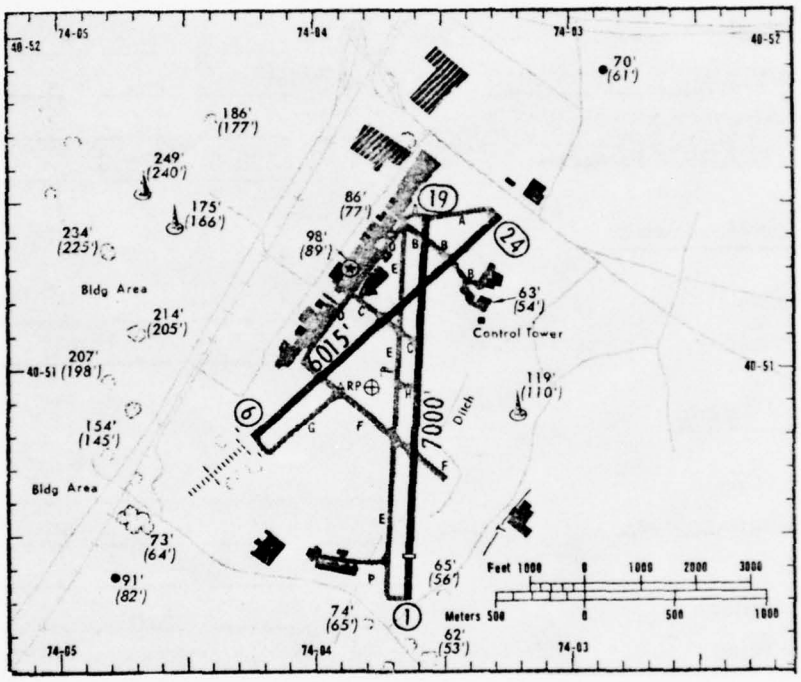
Hub Name New York Master Plan Status None

Approximate Distance and Direction to Hub CBD 6 Miles East

Approximate Distance and Direction to Hub Air Carrier Airport 8 Miles Southwest

Name of That Airport Newark Number of Commuters 1

Approximate Number of Employees at Airport _____ as of _____



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985		1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	7.7				
1a.	Air Taxi	7.7				
2.	General Aviation	218.6				
2a.	Itinerant	182.9				
2b.	Local	35.7				
3.	Military	0.9				
4.	Total Aircraft Operations	227.2	242.5	250.0		292.0
5.	Total FAA 1974 Forecasts		300.0	375.0		
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	445				
8a.	Single Engine	305				
8b.	Jets	54				
8c.	Seaplane					
9.	Rotary Wing	14				
10.	Total Based Aircraft	459	515	540		602

TEB

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	6	5015			ILS		
2.	24	6015			VOR		
3.	1	6230			VOR		
4.	19	7000			VOR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B 12 Class C 88 Class D+E _____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	6
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	Yes			

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	99				
23.	Maximum Hourly Capacity (IFR)	55				
24.	Practical Annual Capacity (000)	220				

TEB

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions					
4. Conventional Hangars					
5. Terminal Building Area (sq ft)					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	350				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

No Development Planned.

TEB

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Greater Wilmington Code ILG

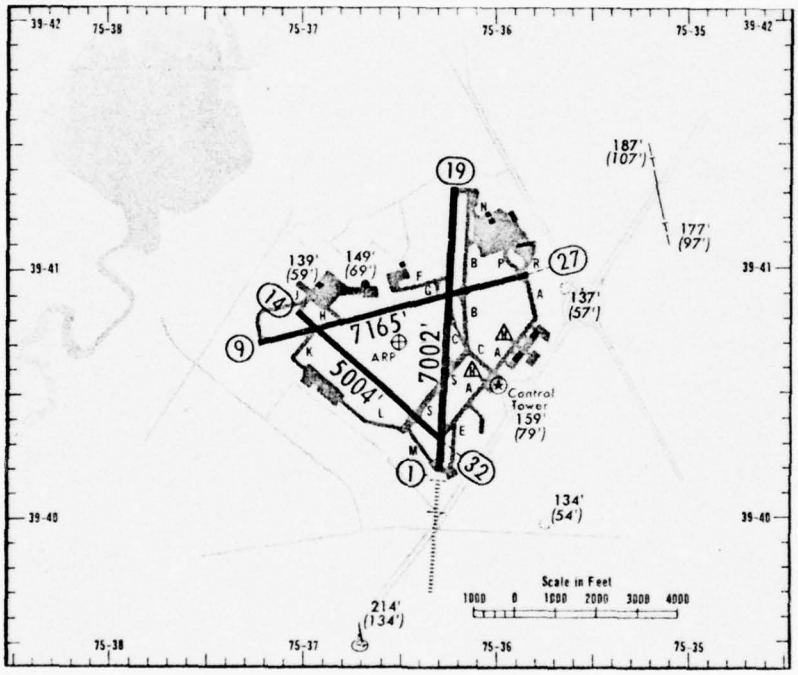
Hub Name Philadelphia Master Plan Status 1970

Approximate Distance and Direction to Hub CBD 35 Miles North

Approximate Distance and Direction to Hub Air Carrier Airport 25 Miles North

Name of That Airport Philadelphia International Number of Commuters 1

Approximate Number of Employees at Airport 1700 as of 1976



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Greater Wilmington Airport is the busiest general aviation airport in the South Philadelphia area. A 1970 Master Plan for the airport is still used as the primary planning guide, although the forecasts and dates are likely to slip. The airport is actively promoting service at ILG and the commuter/air carrier/general aviation potential is very great. A new passenger terminal is envisioned at the North end of

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the airport, but construction will be when the demand dictates. No major airside development is presently anticipated, but additional apron paving and taxiway development is likely.

Comments on Data Collected - The airport uses the "natural" market forecasts for air carrier/commuter figures and "present" market for general aviation figures, thus totals in item 6 are a combination of both. VTOL operations are included in GA figures. Part 3 figures for 1976 and beyond are forecasted requirements and not necessarily committed plans. Parking spaces are estimated based on 145 cars per acre (general standard) and square footage requirements presented in the Master Plan.

ILG

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1969	1976	1980	1985	1990
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	7.4	10.4	36.5	57.4	75.3
1a.	Air Taxi		4.1	5.1	6.2	6.9
2.	General Aviation	134.0	220.0	234.0	239.0	243.0
2a.	Itinerant	63.0	110.0	140.4	179.2	182.2
2b.	Local	71.0	110.0	93.6	59.8	60.8
3.	Military Army & Air Natl Guard	22.8	22.8	22.8	22.8	22.8
4.	Total Aircraft Operations	164.2	253.2	293.3	319.2	341.1
5.	Total FAA 1974 Forecasts			283.8	323.8	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour	65	100	100	100	100
	Based Aircraft					
8.	Fixed Wing	102	230	230	230	230
8a.	Single Engine	41	165	150	120	95
8b.	Jets					
8c.	Seaplane	0	0	0	0	0
9.	Rotary Wing	4	12	15	21	27
10.	Total Based Aircraft	106	242	245	251	257

ILG

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	1	7002	Same	-	ILS		
2.	19	7002	Same	-	VFR		
3.	9	7165	Same	-	VOR	ILS	1978
4.	27	7165	Same	-	VFR		
5.	14	5004	Same	-	VFR		
6.	32	5004	Same	-	VOR		
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-707

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 30 Class B; 30 Class C; 40 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	1
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	Yes			

		Year: Actual 1969	1976	Forecast 1980	1985	1990
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	136	136			
23.	Maximum Hourly Capacity (IFR)	52	52			
24.	Practical Annual Capacity (000)	250	250	250	250	250

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1969	1976	1980	1985	1990
1. Parking Apron Area (000 sq ft)	690	790			
2. Hangar Area (000 sq ft)		1445	1480	1530	1560
3. T-Hangar Parking Positions	37	58	60	64	70
4. Conventional Hangars	8	29	31	33	35
5. Terminal Building Area (sq ft)	35000	35000	136000	293000	443000

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1969	1976	1980	1985	1990
1. Automobile Parking Spaces	260	260	1000	2200	3700
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	Yes	Yes	Yes	Yes	Yes
5. Rail, Subway, Other Access	No	No	No	No	No

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/5/3	Terminal	293K sq ft	1976-85	16,350.	1970

A new passenger terminal planned when needed at North section of airport.

4/1/3	Auto Parking	1800 cars	1976-85	600.	1970

630,000 sq ft of auto parking planned by 1985 (1800 spaces).

AIR CARRIER AIRPORT DATA LIST

Airport Name Philadelphia International Code PHL

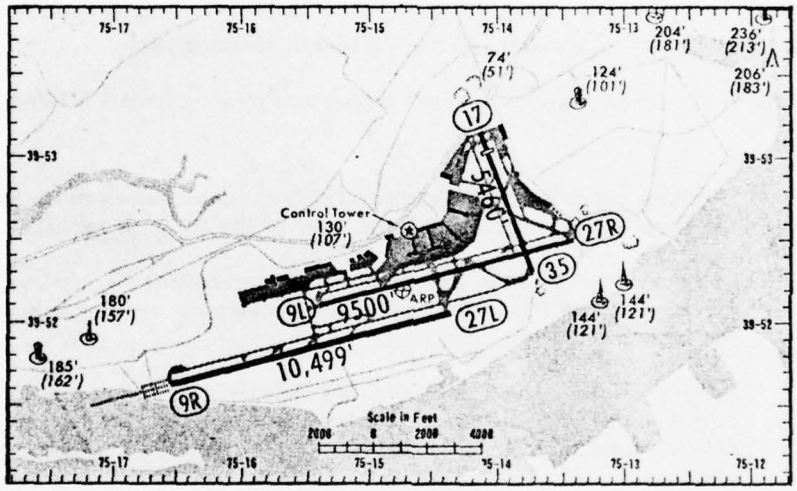
Hub Name Philadelphia Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 8 Miles Northeast

Approximate Number of Employees at Airport 4000 as of 1975

Number of Air Carriers 8 Commuters 1

Terminal Type: ____Linear X Pier ____Satellite ____Transporter



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Philadelphia International Airport is the only airport in the world that claims to have been the site of a naval confrontation. It is said that British men-of-war sailed across part of it during the Revolution enroute to bombard Fort Mud, later called Hog Island. In 1922, the northeast corner (125 acres) of what is now Philadelphia International Airport was selected from among many alternatives as the site for an airport. Millions of cubic yards of fill were pumped in from the bottom of the Delaware River during site preparation.

In July 1972, the City of Philadelphia commissioned Arnold Thompson Associates, airport consultants, to prepare a Master Plan for the short-, intermediate-, and long-range (5, 10 and 20 year) development of Philadelphia International Airport. The air traffic activity forecasts contained in this report were based on 1972 data. In the ensuing time, two factors which significantly affected the aviation industry have occurred. The oil embargo during the winter of 1973-74 resulted in a shortage of aviation fuel, which in turn led to major cutbacks in schedule frequencies by the airlines. In addition, the recessionary state of the U.S. economy in 1974 and 1975 contributed to a declining growth rate in both airline travel and general aviation flying. Consequently, some of the forecasts set forth may prove to be inaccurate. Nonetheless, the basic conclusions and recommendations of the Master Plan Study remain valid. It was emphasized that the staging of airport development projects is directly related to aircraft and passenger activity levels, irrespective of when that activity level is attained -- be it prior, or subsequent, to the indicated forecast year.

Some of the major conclusions and recommendations of the 1975 Master Plan are as follows:

1. Ultimate capacity of the runway system is anticipated to be below the level of demand in the latter part of the forecast period.

2. Short- and long-range expansion programs are directed toward improvement of the access system and passenger and cargo handling facilities.

3. Runway improvements beyond those already envisioned are not probable due to the lack of available property and environmental and technological considerations.

4. North Philadelphia Airport represents a viable general aviation alternative and should be developed consistent with the needs of the City in lieu of further airside development at Philadelphia International.

5. New passenger terminal and cargo city facilities should be developed as presently planned. The design should retain flexibility to permit construction schedule changes, as required, with a minimum of physical and financial discomfort.

6. Unless additional capacity can be secured at Philadelphia International Airport, steps should be taken to insure adequate aeronautical facilities for the 1990's. This can be accomplished by further development of North Philadelphia Airport and other general aviation airports in the metropolitan area.

7. The construction of I-95 and the development of the Cobbs Creek Expressway will provide roadway access for the forecast demand. (Note the airport planners have since noted that construction of Cobbs Creek Expressway is now unlikely.)

8. The capability to lengthen Runway 9R-27L by 1,500 feet at the east end to a total length of 12,000 feet should be maintained. Similarly, the capability of lengthening Runway 17-35 to a potential length of 7,000 feet should also be maintained.

The costs of future terminal units is not known, but they are expected to be in the $20 million range per unit (baggage, terminal). Each terminal is about 200,000 square feet.

PART 1. FORECASTS

Items 1, 2, 9 and 10. Page 60 of Master Plan identifies "scheduled" and "nonscheduled" domestic. Air Taxi figures here are these "nonscheduled," and commuter is assumed to be included in air carrier. This is relatively accurate.

Item 3. Percentage of connecting passengers estimated at 5 to 6% by airport planners; 5.5% used.

PART 3. TERMINAL

International Terminal. Current international flights operate out of the Overseas Terminal which is a converted hangar. International passenger demand is below original forecasts and this facility will be used longer than the planned ten years. Ultimately, international facilities will be in the main passenger terminal in Unit H. Since there will then be no separate facility, zeros are used in the data sheet.

"Actual" wide body gates are those in use, not maximum available.

Passenger Terminal. Original planning dates (which will vary according to actual passenger demand) are as follows:

Planning Stage	Completion	Terminal Unit	Parking Units
II-A	1976	E	C, D
II-A-I	1979	A	B, E
III	1985	H	-
IV	1990	F	G
V	1995	G	A

Baggage claim areas, ticket counter lengths, curb frontages are all estimated from terminal layout drawings and include building E.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1972	1975	1980	1985	1995
	Enplaned Passengers (000)					
1.	Air Carrier	3537.4	4810.0	6870.0	9325.0	14700.0
2.	Commuter (Including Air Taxi)	-	-	-	-	-
2a.	Air Taxi	35.8	90.0	130.0	175.0	300.0
3.	Connecting	196.5	269.5	385.0	522.5	825.0
4.	Originating	3376.7	4630.5	6615.0	8977.5	14175.0
5.	Domestic	3288.8	4550.0	6500.0	8750.0	13750.0
6.	International	284.4	350.0	500.0	750.0	1250.0
7.	Total Enplaned Passengers	3573.2	4900.0	7000.0	9500.0	15000.0
8.	Total FAA 1974 Forecasts		-	5552.0	7170.0	-
	Aircraft Operations (000)					
9.	Air Carrier	173.2	191.7	220.3	249.3	304.6
10.	Commuter (Including Air Taxi)	-	-	-	-	-
10a.	Air Taxi	53.1	60.0	64.0	69.0	83.0
11.	General Aviation	77.3	87.0	106.0	129.0	190.0
11a.	Itinerant	77.3	87.0	106.0	129.0	190.0
11b.	Local	0	0	0	0	0
12.	Military	2.3	2.0	2.0	2.0	2.0
13.	Total Aircraft Operations	305.9	340.7	392.3	449.3	579.6
14.	Total FAA 1974 Forecasts		-	434.0	504.0	-
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)*	2160	2800	4000	5300	8300
16.	Aircraft	85	95	104	113	131
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	82.8	109.0	168.0	258.0	526.0

*Domestic only.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	9R	10499 x 200	12000	Not planned but capability maintained	II
2.	27L	10499 x 200	12000		I
3.	9L	9500 x 150	Same	-	
4.	27R	9500 x 150	Same	-	I
5.	17	4710 x 150	7000	Possibly occur 6-10 yrs from 1976 but no firm plans made	VFR
6.	35	5460 x 150	7000		VFR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 0.5 Class AA 11.5 Class A 38.3 Class B 27.7 Class C 10.0 Class D 12.0 Class E

		Actual	Forecast			
	Year:	1972	1976	1980	1985	Ultimate
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	140	140	126		119
17.	Maximum Hourly Capacity (IFR)	113	113	107		105
18.	Minimum Hourly Capacity (IFR)					
19.	Practical Annual Capacity (000)	557	557	501		474

PHL

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1976	1980	1985	Ultimate
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	47	47	57	66	84
1a. International Terminal	8	8	8		0*
2. Wide Body Parking Positions	7	7	17		
2a. International Terminal	4	4	4		0
3. Gates (Passenger Exits)	43	43	53		
3a. International Terminal	4	4	4		0
Ticket Counters					
4. Linear Feet	750	920			1840
4a. International Terminal					
5. Stations	95				
5a. International Terminal					
Baggage Claim					
6. Public Area (sq ft)	28000				
6a. International Terminal					
7. Equipment Types	12 carousels (includes 3 in Section E)				
8. Equipment Capacity (bags/min)	720				
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers	6				
9a. International Terminal					
10. Manual (Carry On Baggage)	3				
10a. International Terminal					
11. X-ray (Carry On Baggage)	3				
11a. International Terminal					

*Ultimately, international facilities will be in main terminal, thus no separate international terminal will exist.

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1972	1976	1980	1985	Ultimate
	Terminal Area (000 sq ft)					
12.	Total Area	640	640	1070		1700
12a.	International Terminal	105	105	105		0
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	2910*	2910*	4630*		6800*
14.	Annual (000)	7275*	7275*	11575*	12000	30000
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	245	245			
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions					
18.	Truck Loading Docks					
19.	Cargo Loading Type ____ Manual ____ Semi-Automatic ____ Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	None				
21.	Apron Area (000 sq ft)	48 aircraft				
22.	Hangar Area (sq ft)	48 aircraft				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only	26%				
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger	0.65				

*Estimates based on 250 sq ft/pax domestic, 300 sq ft/pax international, and 0.04% of annual capacity = peak hour capacity. Other figures are from Master Plan.

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		(Ultimate)
	Year:	1972	1976	1980	1985	1995
	Automobile Parking Spaces					
1.	Total Public	9000	9000	13400	13400	20000
1a.	Short Term	0	0			
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	2275	3040			6080
4a.	Enplaned	1175	1760			3520
4b.	Deplaned	1100	1280			2560
5.	International Terminal Lineal Feet					
5a.	Enplaned					
5b.	Deplaned					
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	Rail	Rail	Rail
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	60.3 %				
9.	Taxi	16.7 %				
10.	Bus (Includes Hotel Shuttles, Limos)	14.9 %				
11.	Subway, Rail, Other	8.1 %				
	Percentage of People Entering Airport					
12.	Passengers	33 %				
13.	Visitors, Well Wishers, Greeters	67 %				
14.	Employees	%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

NOT AVAILABLE

PHL

GENERAL AVIATION AIRPORT DATA LIST

Airport Name North Philadelphia Code PNE

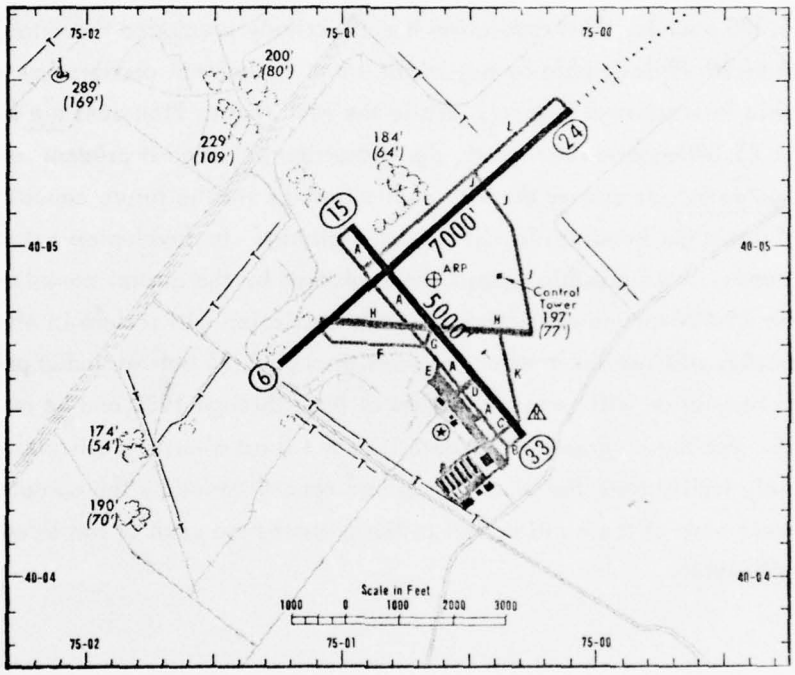
Hub Name Philadelphia Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 15 Miles South

Approximate Distance and Direction to Hub Air Carrier Airport 20 Miles South

Name of That Airport Philadelphia International Number of Commuters 1

Approximate Number of Employees at Airport 300 as of 1976



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At the current time, North Philadelphia Airport serves as the major general aviation airport in the metropolitan Philadelphia area and is the only airport within the city limits that permits general aviation local operations (i.e., pilot training). Based on an analysis of the demand forecasts for Philadelphia International Airport and the annual capacity of the runway system of some 480,000 annual operations, it has been concluded by the airport consultants that the capacity of International will be adequate through 1985. Subsequent to that date, a certain percentage of general aviation and/

or air carrier itinerant activity will need to be accommodated at an airport other than Philadelphia International. Because of the quality of available facilities, North Philadelphia Airport is expected to continue as the second most desirable airport from the standpoint of general aviation itinerant traffic. In developing the forecasts of aviation activity for North Philadelphia, it was assumed that the diverted general aviation traffic from Philadelphia International would be distributed to a number of airports in the region, including North Philadelphia.

The City of Philadelphia presently restricts scheduled certificated air carriers from operating at North Philadelphia Airport with aircraft with a gross weight in excess of 75,000 pounds. This restriction has effectively precluded the establishment of service at North Philadelphia by any of the trunk or regional carriers now operating at Philadelphia International Airport. While the PNE Master Plan does not recommend removing the 75,000-pound restriction, the consultant believed it prudent to develop forecasts of potential air carrier activity and to provide for the future capability for expansion of passenger handling facilities at the airport. In developing aviation activity forecasts, three possible cases were evaluated by the airport consultants with respect to the 75,000-pound restriction: (1) the restriction will remain in effect; (2) the restriction will remain in effect at least through 1975 but rescinded prior to 1980; (3) the restriction will remain in effect at least through 1980 and be rescinded prior to 1985. For the purposes of this data list, the third alternative is included. This is chosen solely to illustrate the planning options recommended by the consultant. The airport planners were of the opinion that at the present time each of the three alternatives is equally likely.

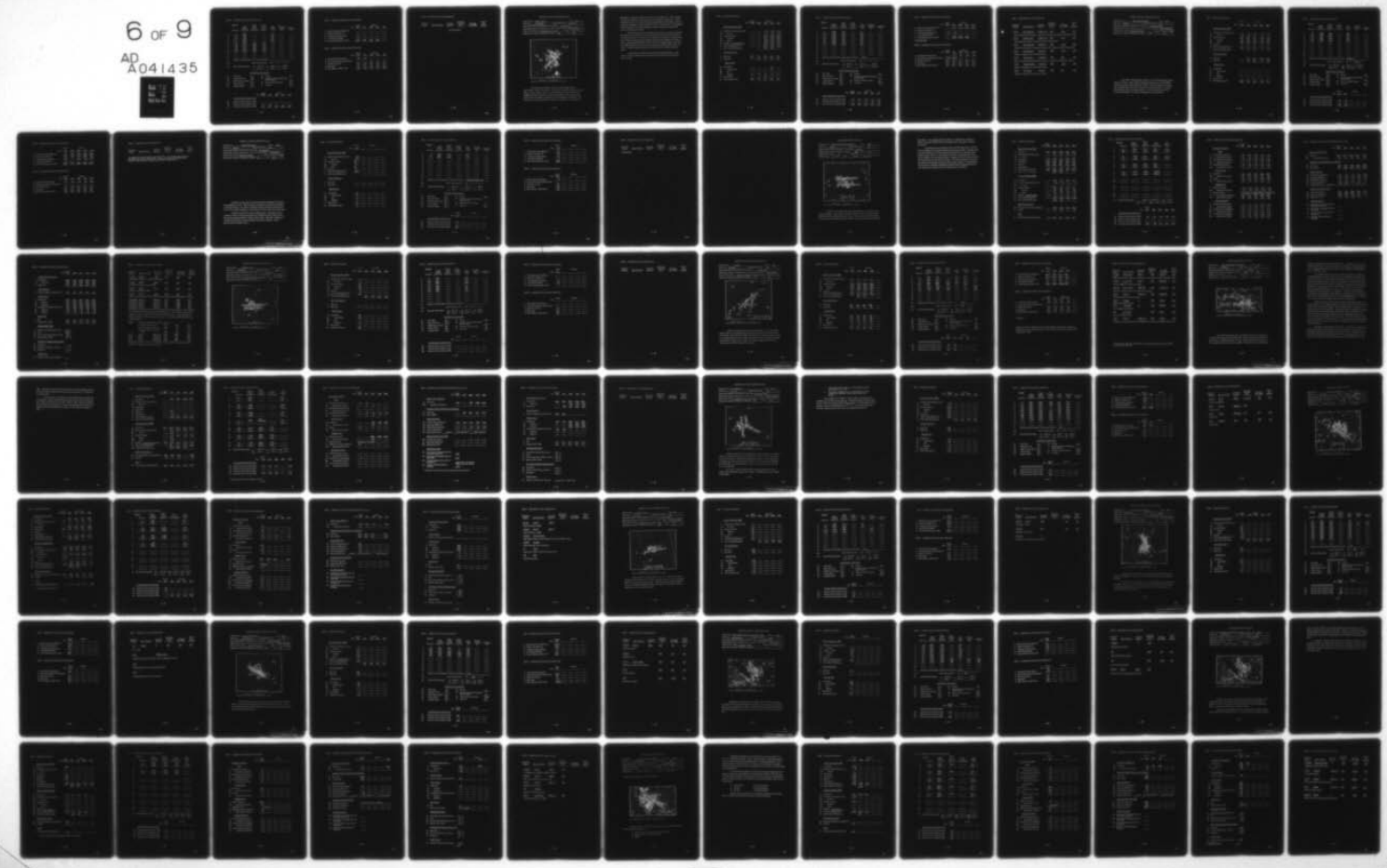
PART 1. DEMAND FORECASTS

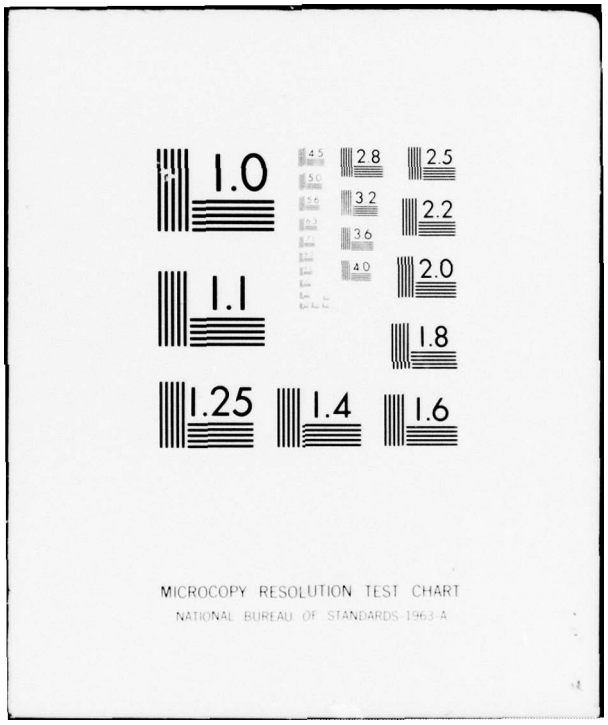
	Year:	Actual 1972	1975	Forecast 1980	1985	1990
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	11	13	17	33	50
1a.	Air Taxi	11	13	17	18	20
2.	General Aviation	149	180	210	234	272
2a.	Itinerant		120	155	194	237
2b.	Local		60	55	40	35
3.	Military	3	3	3	3	3
4.	Total Aircraft Operations	163	196	230	270	325
5.	Total FAA 1974 Forecasts			269	383	
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	148				
8a.	Single Engine	100				
8b.	Jets					
8c.	Seaplane	1				
9.	Rotary Wing	18				
10.	Total Based Aircraft	166				

PNE

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA
UNCLASSIFIED FAA-AVP-77-26 NL

6 OF 9
AD A041435




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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	6	7000			LOC		
2.	24	7000			ILS		
3.	15	5000			VFR		
4.	33	5000			VFR		
5.	15L	None	3200	1977	-		
6.	33R	None	3200	1977	-		
7.	6R	None	3200	1990	-		
8.	24L	None	3200	1990	-		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B _____ Class C _____ Class D _____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	24
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

	Year:	Actual 1972	Forecast 1975	1980	1985	1990
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	220	220	320	320	380

PNE

PART 3. TERMINAL FACILITIES AND CAPACITIES

Year:	Actual 1972	Forecast 1975	1980	1985	1990
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	64				
4. Conventional Hangars	5				
5. Terminal Building Area (sq ft)	6600	6600	6600	6600	-

PART 4. LANDSIDE FACILITIES AND CAPACITIES

Year:	Actual 1972	Forecast 1975	1980	1985	1990
1. Automobile Parking Spaces	304	304			
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	No	No	No	No	No
5. Rail, Subway, Other Access	No	No	No	No	No

PNE

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

NOT AVAILABLE

PNE

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Mercer County Code TTN

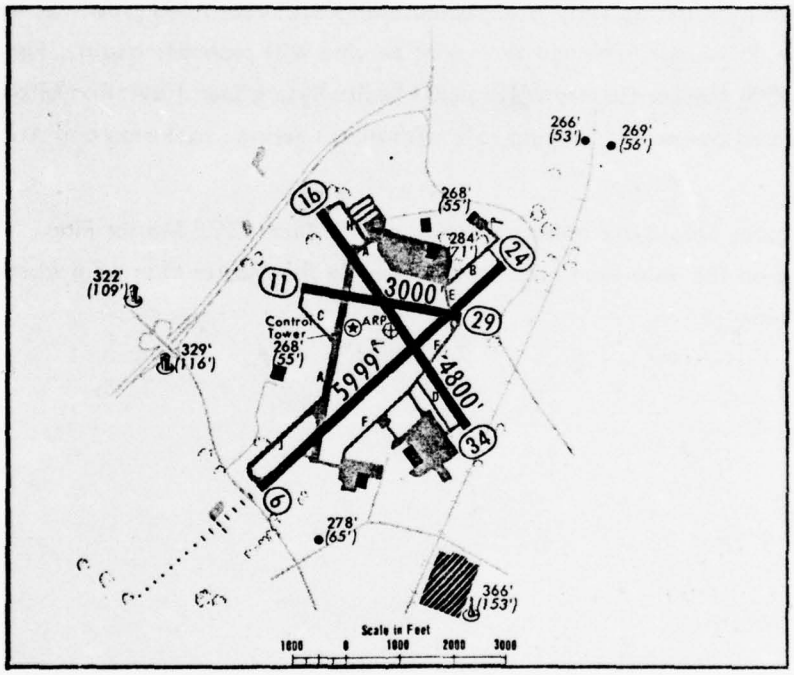
Hub Name Philadelphia Master Plan Status 1976-Draft

Approximate Distance and Direction to Hub CBD 35 Miles South

Approximate Distance and Direction to Hub Air Carrier Airport 40 Miles South

Name of That Airport Philadelphia International Number of Commuters 1

Approximate Number of Employees at Airport 1,100 as of 1975



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The Mercer County Airport is presently under the Department of Public Works in Trenton, New Jersey. Two fixed based operators presently serve the airport: Ronson Aviation, and U. S. Steel Corporation. Ransome Airlines, as an Allegheny Commuter, operates 27-passenger NORD 262 aircraft between Mercer County Airport and Newark International, and to Philadelphia International. The schedule is currently comprised of four flights daily to Newark, and six flights to

Philadelphia. Passengers in 1975 are nearly 25 percent higher than in 1974. Ransome Airlines has requested JFK International service and expects to begin service in 1976. The commuter service is a growing and promising development at the airport. There are presently no scheduled air carrier operations at Mercer County Airport. With completion of the new terminal in July 1976, Allegheny Airlines is expected to initiate DC-9 service to Chicago via Pittsburgh.

The role of the airport for a 20-year planning period is discussed in the 1976 Draft Master Plan as follows. Currently, Mercer County is a general aviation airport with commuter service. In the short term (to 1980) a continued growth in corporate and private general aviation activity is expected along with continued growth of commuter service. Also, Pittsburgh/Chicago air carrier service will probably begin. For the long term (1980-1995) Mercer County will remain basically a general aviation airport, but with an increased passenger carrying role with direct service to Boston and Atlanta likely.

Figures herein are based primarily on the Draft 1976 Master Plan. Page numbers noted on the data form refer to locations in the Master Plan from which the data were taken.

TTN

PART 1. DEMAND FORECASTS

		Actual		Forecast		
	Year:	1974	1975	1980	1985	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)			8.5	10.5	15.0
1a.	Air Taxi			0	0.1	0.1
2.	General Aviation			173.5	195.0	236.0
2a.	Itinerant			86.5	94.0	102.0
2b.	Local			87.0	101.0	134.0
3.	Military NJ Army Natl Gd			38.0	44.5	59.0
4.	Total Aircraft Operations			220.0	250.0	310.0
5.	Total FAA 1974 Forecasts			256.7	350.3	
	Aircraft Movements					
6.	Peak-Day	585	615	700	800	990
7.	Peak-Hour		60	70	80	100
	Based Aircraft					
8.	Fixed Wing				94	
8a.	Single Engine				74	
8b.	Jets					
8c.	Seaplane	0	0	0	0	0
9.	Rotary Wing			16		
10.	Total Based Aircraft	90	95	110	130	170

TTN

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	6	6,000	Same	-	ILS		
2.	24	6,000	Same	-	VOR		
3.	11	3,000	Same	-	VFR		
4.	29	3,000	Same	-	VFR		
5.	16	4,800	Same	-	VFR		
6.	34	4,800	Same	-	VFR		
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-727

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; ____ Class B; ____ Class C; ____ Class D; ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18. Unicom	Yes
14.	Hours of Service	24	19. Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20. Primary Instrument Runway	6
16.	Vortac Station	No	21. Joint Use	Yes
17.	Weather Station	Yes		

	Year:	Actual 1974	Forecast 1975	1980	1985	1995
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	110	110	110	115	120
23.	Maximum Hourly Capacity (IFR)	7	7	7	10	14
24.	Practical Annual Capacity (000)	220	220	220	225	230

TTN

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1975	1980	1985	1995
1. Parking Apron Area (000 sq ft)		119.6	172.8	224.4	224.4
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	0	36			
4. Conventional Hangars	3	3			
5. Terminal Building Area (sq ft)		21,000*	21,000	33,000	

*As of May 1976.

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1975	1980	1985	1995
1. Automobile Parking Spaces		470	470	470	540
2. Access Road Capacity (vehicles/hr)	2 lanes,	35 mph			
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	Yes	Yes	Yes	Yes	Yes
5. Rail, Subway, Other Access	No	No	No	No	No

TTN

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/1/3	Apron Expansion	50,000^{+} sq ft	1978	183.6	1975
Apron pavement for Gulfstream II type aircraft (project 10A, page 65, 90 of Master Plan).					
3/1/4	Terminal Apron	50,000^{+} sq ft	1983	194.5	1975
Apron expansion (project 16, pages 65, 90, 93 of Master Plan).					
3/1/3	Apron Expansion	50,000 sq ft	1978	183.6	1975
Pavement for Gulfstream II type aircraft (project 10A, pages 65 and 90 of Master Plan).					
3/1/3	Terminal Apron	6200 sq yd	1983	194.5	1975
(Project 16, pages 65, 90, 93 of Master Plan).					
3/5/2	New Terminal	21,000 sq ft	1976	2302	1975
Cost of site work plus building (projects 1A, B, C, pages 90 and 93 of Master Plan).					
3/5/4	Expand Terminal	12,000 sq ft	1983	488.5	1975
(Project 15, pages 65, 90, 93 of Master Plan).					
4/1/2	GA Parking	470 stalls	1976	730	1975
(Project 12, pages 65, 90, 93 of Master Plan).					

TTN

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Deer Valley Municipal Code DVT
Hub Name Phoenix Master Plan Status 1972
Approximate Distance and Direction to Hub CBD 15 Miles Southwest
Approximate Distance and Direction to Hub Air Carrier Airport 18 Miles Southwest
Name of That Airport Phoenix Sky Harbor Number of Commuters None
Approximate Number of Employees at Airport 100 as of 1975

Deer Valley Municipal Airport (DVT) is one of the busiest general aviation airports in the state. Recent additions include the construction of a small (3800') touch and go runway north of the primary 7L/25R. Also a new terminal building has been completed along with an FAA tower and new T-hangar facilities. No further expansion plans exist until demand requires it. There is room at the airport for future aircraft hangars. The airport is operated by the City of Phoenix.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1975	1980	1985	1990
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	0
1a.	Air Taxi	0	0	0	0	0
2.	General Aviation	319	273	415	517	716
2a.	Itinerant	152	160	195	243	337
2b.	Local	167	113	220	274	379
3.	Military					
4.	Total Aircraft Operations	319	273	415	517	716
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day		933	1415	1768	2448
7.	Peak-Hour		94	142	177	245
	Based Aircraft					
8.	Fixed Wing					
8a.	Single Engine					
8b.	Jets					
8c.	Seaplane					
9.	Rotary Wing					
10.	Total Based Aircraft	280	428	650	810	1122

DVT

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	7R	5800	Same	-	VFR		
2.	25L	5800	Same	-	VFR		
3.	7L	3800	Same	-	VFR		
4.	25R	3800	Same	-	VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 60,000 lbs

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1974	1975			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	85	85			
23.	Maximum Hourly Capacity (IFR)	0	0			
24.	Practical Annual Capacity (000)	280	280			

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1975	1980	1985	1990
1. Parking Apron Area (000 sq ft)	864	1332	2025	2500	3480
2. Hangar Area (000 sq ft)	414	621	945	1089	1629
3. T-Hangar Parking Positions	122		195	243	337
4. Conventional Hangars	0				
5. Terminal Building Area (sq ft)	10600	17750	27000	33500	46350

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1972	1975	1980	1985	1990
1. Automobile Parking Spaces	275	462	702	871	1205
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	No	No	No	No	No
5. Rail, Subway, Other Access	No	No	No	No	No

DVT

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

The Master Plan identifies projects only through 1977. None of these projects remain on the 1975 Phoenix aviation activity sheet. Thus no plans have been finalized though additional aircraft parking and hangars appear likely if demand exists.

DVT

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Litchfield Municipal Code GYR
Hub Name Phoenix Master Plan Status None
Approximate Distance and Direction to Hub CBD 18 Miles East
Approximate Distance and Direction to Hub Air Carrier Airport 21 Miles East
Name of That Airport Phoenix Sky Harbor Number of Commuters None
Approximate Number of Employees at Airport 75 as of 1975

Litchfield is in the process of having a Master Plan developed which should be completed by mid 1976. Thus at present the information on this airport is limited to current facilities only. The airport is operated by the City of Phoenix; all data herein are from the aviation department, City of Phoenix, and the current airport layout plan.

Litchfield is used by PSA to train Lufthansa pilots. According to the City of Phoenix, there is more long term potential at Litchfield than Deer Valley, but the short term and existing potential is clearly at Deer Valley. Other than completion of a Master Plan there are no major developments planned for Litchfield. Current ground access to Litchfield is poor.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975				
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.05				
1a.	Air Taxi	0.05				
2.	General Aviation	258				
2a.	Itinerant	77				
2b.	Local	181				
3.	Military	0				
4.	Total Aircraft Operations	258.05				
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	91				
8a.	Single Engine	71				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	91				

GYR

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	3	6500	Same	-	VFR		
2.	21	6500	Same	-	VFR		
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 50,000 lbs single wheel

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B _____ Class C _____ Class D _____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	
15.	Flight Service Station	No	20.	Primary Instrument Runway	
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	85				
23.	Maximum Hourly Capacity (IFR)	0				
24.	Practical Annual Capacity (000)	280				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	314				
2. Hangar Area (000 sq ft)	225				
3. T-Hangar Parking Positions	22				
4. Conventional Hangars	2				
5. Terminal Building Area (sq ft)	8000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	50				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

None Planned.

AIR CARRIER AIRPORT DATA LIST

Airport Name Phoenix Sky Harbor International Code PHX

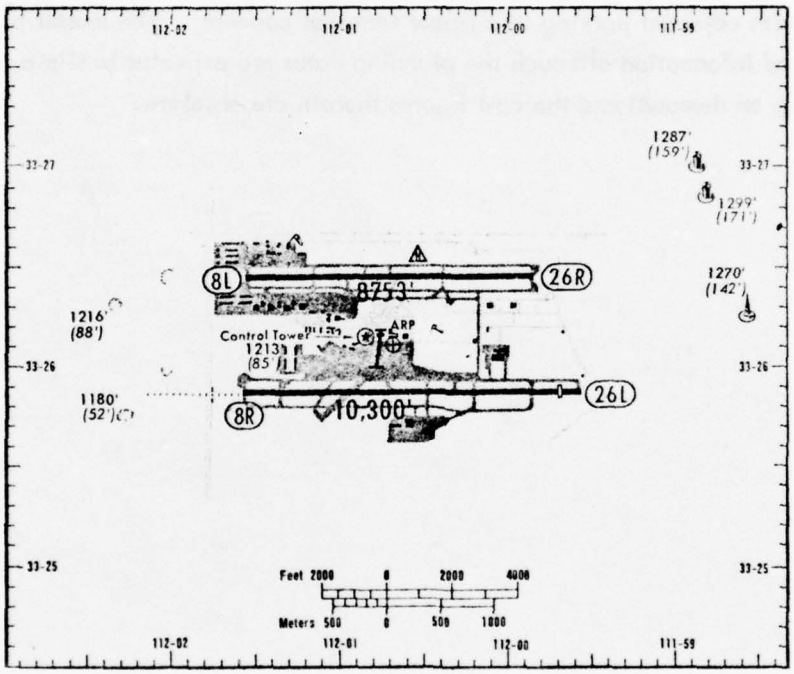
Hub Name Phoenix Master Plan Status 1972

Approximate Distance and Direction to Hub CBD 3 miles East

Approximate Number of Employees at Airport 1300 as of 1975

Number of Air Carriers 8 Commuters 1

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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The Phoenix Sky Harbor International Airport (PHX) is undergoing a major expansion program. The airport has two major parallel East West runways and is developing the terminal complex between the runways. A new executive terminal building has been recently completed for general aviation users and a new cargo facility has also

been added. A new passenger terminal, Module 3, is scheduled for completion in 1978 at a total cost of $60-70 million (the building itself is expected to cost about $35 million).

The primary source of information PHX is the 1972 Master Plan. This identifies a multiphase plan of airport development beyond the year 2015. Included in the plan is the extension of the North runway and construction of two additional South parallel runways. Perhaps the major feature of the plan is the redevelopment of the terminal complex and access roadway system. Passengers will be able to arrive directly from freeways both East and West of the airport. The terminal complex will consist of many modules with adjacent parking (the linear terminal concept). The master plan is the best source of information although the planning dates are expected to slip a few years (depending on demand) and the cost figures therein are obsolete.

PART 1. DEMAND FORECASTS

		Actual Year: 1970	1980	1985	1990	1995
	Enplaned Passengers (000)					
1.	Air Carrier	1507	4408	5908	7408	8908
2.	Commuter (Including Air Taxi)		92	92	92	92
2a.	Air Taxi					
3.	Connecting	241	720	960	1200	1440
4.	Originating	1266	3780	5040	6300	7560
5.	Domestic	1507	4463	5961	7460	8958
6.	International	0	37	39	40	42
7.	Total Enplaned Passengers	1507	4500	6000	7500	9000
8.	Total FAA 1974 Forecasts		2700	3325		
	Aircraft Operations (000)					
9.	Air Carrier		180	218	250	274
10.	Commuter (Including Air Taxi)		9.2	9.2	9.2	9.2
10a.	Air Taxi					
11.	General Aviation		200	220	235	215
11a.	Itinerant		144	158	169	155
11b.	Local		56	62	66	60
12.	Military National Guard	8	8	0	0	0
13.	Total Aircraft Operations		397.2	447.2	494.2	498.2
14.	Total FAA 1974 Forecasts		544	607		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)		2800	3500	4100	4800
16.	Aircraft		60	46	45	47
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	7.2	32.6	47.3	62.0	76.7

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	8L	8753	11500	1978	VFR
2.	26R	8753	11500	1978	VFR
3.	8R	10300	None	1990	ILS-I
4.	26L	9594	None	1990	ILS-I
5.	8C	None	11500	1990	-
6.	26C	None	11500	1990	-
7.	8R	None	9200	1985-90	-
8.	26L	None	9200	1985-90	-
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) ____ Class AA + A 19.0 Class A 11.7 Class B
12.1 Class C 10.1 Class D 47.1 Class E

	Year:	Actual 1975	1980	1985	1990	1995
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	69	65	60	60	61
17.	Maximum Hourly Capacity (IFR)					
18.	Minimum Hourly Capacity (IFR)					
19.	Practical Annual Capacity (000)	464	482	614	621	647

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1975	1980	1985	1990	1995
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	29	46	60	74	68
1a. International Terminal	2	2	2	2	2
2. Wide Body Parking Positions	9	19	29	39	42
2a. International Terminal	1	1	1	1	1
3. Gates (Passenger Exits)	29	46	60	74	68
3a. International Terminal	2	2	2	2	2
Ticket Counters					
4. Linear Feet	344	585	870	1155	1120
4a. International Terminal	24	24	24	24	24
5. Stations	56	95	141	188	198
5a. International Terminal	4	4	4	4	4
Baggage Claim					
6. Public Area (sq ft)	11.6	28.2	46.4	64.7	74.9
6a. International Terminal	2.0	2.0	2.0	2.0	2.0
7. Equipment Types	4 carousels, 1 conveyor (INTL), 1 manual (West)				
8. Equipment Capacity (bags/min)	300	600	900	1250	1450
8a. International Terminal	60	60	60	60	60
Security Inspection					
9. Parallel Passenger Servers	6	7	11	15	17
9a. International Terminal	1	1	1	1	1
10. Manual (Carry On Baggage)	2	1	1	1	1
10a. International Terminal	1	1	1	1	1
11. X-ray (Carry On Baggage)	3	6	10	14	16
11a. International Terminal	0	0	0	0	0

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1975	1980	1985	1990	1995
	Terminal Area (000 sq ft)					
12.	Total Area	166.5	481.7	828.9	1176.1	1396
12a.	International Terminal	7.5	7.5	7.5	7.5	7.5
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	690	1950	3340	4729	5609
14.	Annual (000)	1727	4880	8350	11823	14020
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	50	50	50	100	100
16.	Apron Area (000 sq ft)	50	50	50	100	100
17.	Aircraft Parking Positions	2	2	2	6	6
18.	Truck Loading Docks	60	60	60	120	120
19.	Cargo Loading Type	All Manual	____ Semi-Automatic		____ Fully Automatic	
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	5000	5000	5000	5000	5000
21.	Apron Area (000 sq ft)	4100	4100	4100	4100	4100
22.	Hangar Area (sq ft)	245	245	245	245	245
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	____				
24.	Percentage of Passengers Who Use Curb Only	____				
25.	Average Length of Stay of Car in Parking Lot	____				
26.	Number of Checked Bags per Passenger	____				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1975	1980	1985	1990	1995
	Automobile Parking Spaces					
1.	Total Public	4000	6000	8500	11000	13000
1a.	Short Term	640	900	1360	1760	2100
2.	Rental Car	1218	1805	2260	2732	3060
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	833	1667	1667	1667	1667
	Curb Frontage					
4.	Lineal Feet	1030	1760	2840	3920	4550
4a.	Enplaned	515	880	1420	1960	2275
4b.	Deplaned	515	880	1420	1960	2275
5.	International Terminal Lineal Feet	180	180	180	180	180
5a.	Enplaned	90	90	90	90	90
5b.	Deplaned	90	90	90	90	90
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	No	No	No

Passenger Modal Split

8.	Automobile (Includes Rental Car)	65.0 %
9.	Taxi	34.8 %
10.	Bus (Includes Hotel Shuttles, Limos)	0.2 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	____ %
13.	Visitors, Well Wishers, Greeters	____ %
14.	Employees	____ %

Vehicle Count

15.	Number of Vehicles Per Passenger	____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2/3	8L/26R	11500'	1978	5300	1975
Extend present 8L/26R to 11,500' for wide bodies.					
2/7,8/3	8R/26L	4200'	1985	1600	1971
First 4200' of far south runway 8R/26L.					
2/7,8/3	8R/26L	9200'	1990	3398	1971
Extend runway 8R/26L to 9200'.					
2/5,6/3	8C/26C	11500'	1990+	4955	1971
Construct new runway 8C/26C to 11500' and convert old 8C/26R (1975 8R/26L) to a taxiway.					
3/Various/2	Terminal	Module 3	1978	35700	1975
3/Various/3	Terminal	Module 4	1985	17000	1971
3/Various/4	Terminal	Module 6	1990	15000	1971
3/Various/5	Terminal	Module 5	1995	19000	1971
Build terminal modules; capacity of each is estimated to be roughly identical. Cost of module 3 is 1975 estimate. Other costs come from PHX Master Plan. Note that the current module (Module 3) is roughly double the 1971 estimates for other modules. Also the total cost of Module (landscaping interior, adjacent raodway, etc.) is an additional $30-35 million (total of $60-70 million).					
4/4/2	access road improvements +20,000 vehicle/day:				
	(1) connect road to freeway		1976	187	1971
	(2) revise roads near terminals		1976	28	1971
	(3) connect roadway to second freeway		1980	365	1971
4/1/2	Parking	2000 spaces	1980	8440	1971
4/1/3	Parking	1500 spaces	1985	322	1971
4/1/4	Parking	2500 spaces	1990	12078	1971
Public parking garages are to be built in between Terminal Modules. Capacity of each is variable and numbers in data sheet are estimates.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Allegheny County Code AGC

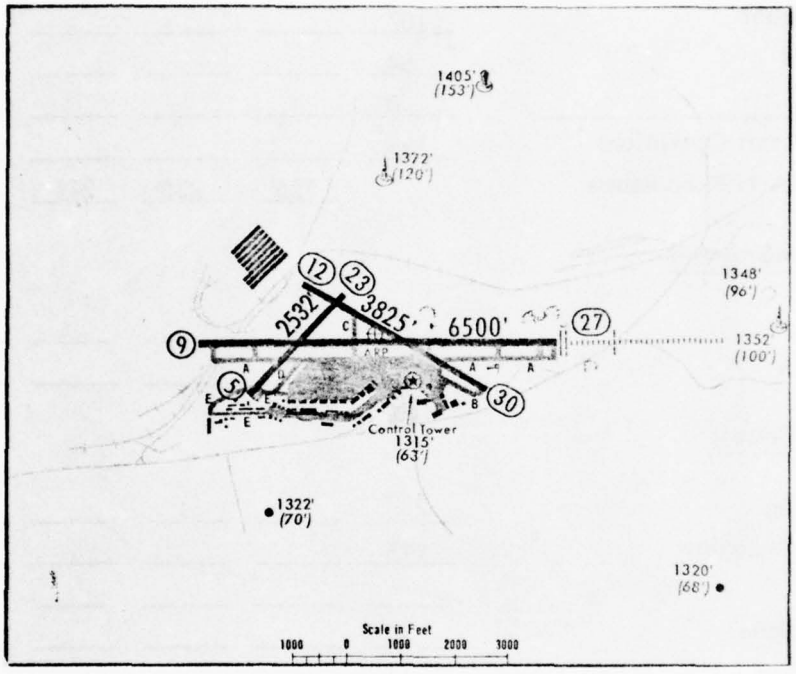
Hub Name Pittsburgh Master Plan Status None

Approximate Distance and Direction to Hub CBD 7 miles North

Approximate Distance and Direction to Hub Air Carrier Airport 15 miles West

Name of That Airport Greater Pittsburgh International Number of Commuters

Approximate Number of Employees at Airport as of



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1976	1977	1978	1981
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	2				
1a.	Air Taxi	2				
2.	General Aviation	191				
2a.	Itinerant	107				
2b.	Local	84				
3.	Military	0				
4.	Total Aircraft Operations	193				
5.	Total FAA 1974 Forecasts		225	235	246	292
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	287				
8a.	Single Engine	195				
8b.	Jets					
8c.	Seaplane	0				
9.	Rotary Wing	11				
10.	Total Based Aircraft	298				

AGC

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	5	2532			VOR		
2.	23	2532			VFR		
3.	9	6500			NDB		
4.	27	6500			ILS		
5.	12	3825			VFR		
6.	30	3825			VFR		
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B
10 Class C 90 Class D+ E Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24 Hrs	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	27
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

	Actual		Forecast		
Year:					
Airside Capacities (Operations)					
22. Maximum Hourly Capacity (VFR)					
23. Maximum Hourly Capacity (IFR)					
24. Practical Annual Capacity (000)					

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974				
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	47				
4. Conventional Hangars	52				
5. Terminal Building Area (sq ft)					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:					
1. Automobile Parking Spaces					
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

AGC

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Latrobe Code LBE

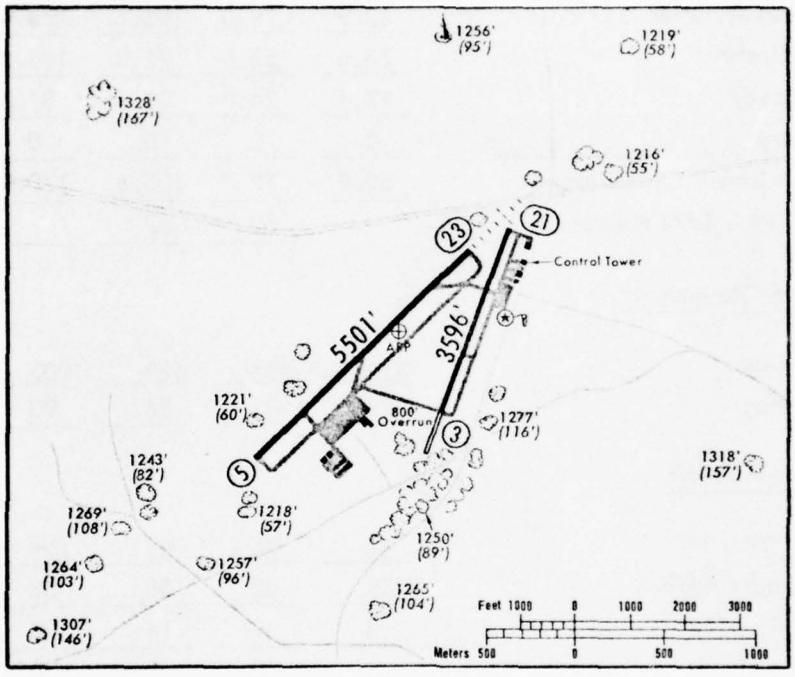
Hub Name Pittsburgh Master Plan Status 1974

Approximate Distance and Direction to Hub CBD 25 miles West

Approximate Distance and Direction to Hub Air Carrier Airport 40 miles West

Name of That Airport Greater Pittsburgh International Number of Commuters 0

Approximate Number of Employees at Airport 30 as of 1975



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Latrobe is located about 25 miles east of Pittsburgh. It is a relatively fast growing airport with considerable expansion planned and surrounded largely by agricultural land. About half of the airport users are business or corporate related. There is no scheduled commuter service presently available but service to Greater Pittsburgh International is planned to start in 1976. The airport manager believes that this is "the finest general aviation airport in the country."

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1972	1977	1982	1992	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	
1a.	Air Taxi					
2.	General Aviation	52.9	79.0	105.6	170.0	
2a.	Itinerant	35.6	55.0	72.0	113.0	
2b.	Local	17.3	24.0	33.6	57.0	
3.	Military	0	0	0	0	
4.	Total Aircraft Operations	52.9	79.0	105.6	170.0	
5.	Total FAA 1974 Forecasts		50	67		
	Aircraft Movements					
6.	Peak-Day	313	466	623	1003	
7.	Peak-Hour	28	42	56	90	
	Based Aircraft					
8.	Fixed Wing	56	70	87	122	
8a.	Single Engine	38	50	58	68	
8b.	Jets	5	9	14	28	
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing	6	2	3	4	
10.	Total Based Aircraft	62	72	90	126	

LBE

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	3	3596	Same	--	VFR	Same	--
2.	12	3596	Same	--	VFR	Same	--
3.	5	5501	8300	1992	LOC	Same	--
4.	23	5501	8300	1992	ILS	Same	--
5.	11	None	2800	1982	--	VFR	1982
6.	29	None	2800	1982	--	VFR	1982
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-9

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D+E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	23
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1972	1977	1982	1992	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	196	196			
23.	Maximum Hourly Capacity (IFR)	70	70			
24.	Practical Annual Capacity (000)	416	416			

LBE

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1972	1977	1982	1992	
1. Parking Apron Area (000 sq ft)	547.0	547.0	673	1096	
2. Hangar Area (000 sq ft)	275.4	303.1	303.1	303.1	
3. T-Hangar Parking Positions	41	55	69	97	
4. Conventional Hangars	8	11	16	24	
5. Terminal Building Area (sq ft)	23600	23600	23600	39600	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1972	1977	1982	1992	
1. Automobile Parking Spaces	290	290	290	500	
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	No	No	No	No	
5. Rail, Subway, Other Access	No	H*	H*	H*	

*Helicopter.

Limousine service is available; bus service is desirable but not planned. Access road handled approximately 218 vehicles/day in 1972, which is estimated to increase to 700 vehicles/day in 1992.

LBE

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated* Cost ($000)	Year of Cost Estimate
2/3,4/3	Runway 5/23	1000 ft	1976	2527(930)	1973
1000 ft extension plus taxiways, terminal apron and pavement strengthening (1000' x 100').					
2/3,4/3	Runway 5/23	1800 ft	1984	2364(1065)	1973
Extension 1800 ft by 150 ft plus widening.					
2/5,6/3	Runway 11/29	2800' x 80'	1978	1015(176.5)	1973
Build new crosswind runway with an 80' x 80' turnaround.					
3/5/4	Terminal	16000 sq. ft	1990	1822(1518)	1973
Extension of present terminal building.					
3/3/2	T-hangar	14	1980	122(85)	1973
One T-Hangar for 14 aircraft.					
3/3/3	2 T-hangars	28	1989	669(220)	1973
Two T-hangars for 28 aircraft.					
4/2	Access Road		1979	14(12)	1973
Access road 600 ft by 20 ft.					
4/1/3	Parking	6000 sq. yds	1988	101(80)	1973
Additional private parking planned in 1982 construction only cost of $25 for 2778 sq. yds.					

*Cost figures include legal, administration and engineering fees; figures in parentheses are construction only costs.

AIR CARRIER AIRPORT DATA LIST

Airport Name Greater Pittsburgh International Code PIT

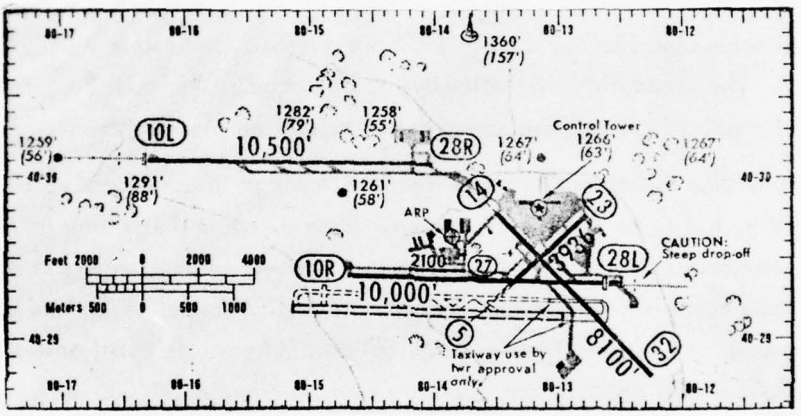
Hub Name Pittsburgh Master Plan Status 1972

Approximate Distance and Direction to Hub CBD 17 miles East

Approximate Number of Employees at Airport 4750 as of 1976

Number of Air Carriers 7 Commuters 1

Terminal Type: X Linear X Pier ____ Satellite ____ Transporter



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The following discussion of PIT is excerpted from a letter by the Chief of the Airport Planning Division, December 1975. Greater Pittsburgh International Airport has seen a tremendous growth pattern over the past sixteen years, and will continue a growth pattern well into the year 2000. In 1960 there were 51,358 scheduled

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flights out of Greater Pittsburgh International Airport. In 1975 this figure will be approximately 102,954, just over a 50% increase. In 1973 there were 201,387 operations. Enplanements and deplanements also rose from 2,258,871 in 1960 to approximately 7,243,547 in 1975.

Our sluggish economy will recover in 1976 and continue at a modest rate in the following years. Fuel costs will increase, but not significantly to hinder aviation growth. When we say won't hinder aviation growth, we mean that the aviation industry will probably maintain a status quo on scheduled air carrier operations, eliminating some smaller aircraft and trying to increase their load factor by scheduling less operations, but using larger aircraft. If the scheduled air carriers are to recuperate their tremendous losses over the past few years, an all out effort on planning and scheduling must be accomplished, and immediately. In 1974 our average load factor was 36.67 per scheduled flights, and in 1975 our average load factor will be approximately 35.02. The scheduling that will have to be accomplished will be a tremendous task, but at this point in time there seems to be little or no alternative.

General Aviation activity at Greater Pittsburgh International Airport will increase slightly, but to no significant degree. Slowly, we feel that any increase which would have been realized will probably move to Campbell Airport, where there is no landing fee, and much less congestion. Corporate and commuter operations on the other hand will increase at Greater Pittsburgh International Airport, but still only slightly. Military operations will decrease significantly from an average 30,000 based on past history, to no more than 13,000 over the next decade. The military operational forecasts were secured from the guard and reserve. In summary our over-all operations from 1976 thru 1999 will increase, but no where near the degree the Federal Aviation Administration predicts.

The Federal Aviation Administration predicts the operations at United States airports with Federal Aviation Administration control towers will increase by 41% by Fiscal 1980 and will be twice the present level by Fiscal 1987. The Federal Aviation Administration also predicts that General Aviation will be responsible for most of this growth and will account for 79% of all operations by Fiscal 1980 and 82% by Fiscal

1987. The Federal Aviation Administration predicts that airline passenger traffic is expected to rise 7% during the current fiscal year and then grow at a 5.8% annual rate through 1982.

Further forecasts by the Federal Aviation Administration's computer shows that passengers carried by the United States scheduled airlines should rise from the 201.9 million of Fiscal Year 1975 to 310.1 million in 1982. Based on the Federal Aviation Administration predictions, Greater Pittsburgh International Airport's total Operations should be 403,822 by Fiscal 1980 and 11,473,700 total passengers in 1982.

PART 1. DEMAND FORECASTS

		Actual Year: 1970	1975	1979	1984	1989
	Enplaned Passengers (000)					
1.	Air Carrier		7243	8953	11900	15531
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic		7215			
6.	International		27.2			
7.	Total Enplaned Passengers		7242.2	8953	11900	15531
8.	Total FAA 1974 Forecasts					
	Aircraft Operations (000)					
9.	Air Carrier	179.1	204.9	211.0	221.5	237.1
10.	Commuter (Including Air Taxi)		19.5	30.9	42.3	53.7
10a.	Air Taxi		54.2			
11.	General Aviation		85.7	87.4	90.9	94.5
11a.	Itinerant		43.2			
11b.	Local		2.9			
12.	Military National Guard Air Res.	22.0	22.0	22.0	22.0	22.0
13.	Total Aircraft Operations		332.1	351.3	376.7	407.3
14.	Total FAA 1974 Forecasts		298.0	380.0	560.0	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	3000	4800	6600	--	10200
16.	Aircraft	91	--	126	--	186
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	26.6	62.0	117.0	180.0	245.0

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	14	9600			VFR
2.	32	9600			VFR
3.	28R	10500			NDB
4.	10L	10500			ILS-II
5.	28L	10000			VOR
6.	10R	10000			VFR
7.	5	3900	To be Phased Out		VFR
8.	23				VFR
9.	10R	None	11500	1977	
10.	28L	None	11500	1977	
11.	14R	None	10000	1987*	
12.	32L	None	10000	1987*	
13.	10	None	10000	1997*	
14.	28	None	10000	1997*	

15. Fleet Mix (Percentage) 1 Class AA 6 Class A 62 Class B 18 Class C 6 Class D 7 Class E

Year:	Actual 1970	1975	1980	1985	1990
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	136	136	121		144
17. Maximum Hourly Capacity (IFR)					
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)	497	497	445		656

* Runway construction now considered unlikely.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1970	1975	1979	1984	1989
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	37	37			
1a. International Terminal		1	4		
2. Wide Body Parking Positions					
2a. International Terminal		1			
3. Gates (Passenger Exits)	37	37	60	65	70
3a. International Terminal		1	4		
Ticket Counters					
4. Linear Feet			880	1050	1200
4a. International Terminal			160	--	--
5. Stations	54		--	--	--
5a. International Terminal					
Baggage Claim					
6. Public Area (sq ft)			80000	10000	12000
6a. International Terminal			2500		
7. Equipment Types	4 conveyers, 5 carousels				
8. Equipment Capacity (bags/min)	540				
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers	3				
9a. International Terminal					
10. Manual (Carry On Baggage)	0				
10a. International Terminal					
11. X-ray (Carry On Baggage)	3				
11a. International Terminal					

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1970	1975	1980	1985	1990
	Terminal Area (000 sq ft)					
12.	Total Area	748		870	1028	1180
12a.	International Terminal					
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour		862	1021	1361	1772
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	136	136	315	660	750
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions	6	6	10	18	25
18.	Truck Loading Docks					
19.	Cargo Loading Type ____ Manual ____ Semi-Automatic ____ Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)			**	**	**
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	23%				
24.	Percentage of Passengers Who Use Curb Only	31%				
25.	Average Length of Stay of Car in Parking Lot	24 hrs - Short-term Parking 48 hrs - Long-term Parking				
26.	Number of Checked Bags per Passenger	0.98				

** Present air carrier terminal will be used as future GA terminal.

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1970	1975	1980	1985	1990
	Automobile Parking Spaces					
1.	Total Public	4000	4000	8900	13500	18900
1a.	Short Term			900	1400	1900
2.	Rental Car		600	1630	2620	3380
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	4800	4800			
	Curb Frontage					
4.	Lineal Feet	2160	2160	4000	6100	8300
4a.	Enplaned	--	--	1600	2400	3300
4b.	Deplaned	--	--	2400	3700	5000
5.	International Terminal Lineal Feet	500	500			
5a.	Enplaned	--	--			
5b.	Deplaned	--	--			
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	No	No	No	No	No

Passenger Modal Split

8.	Automobile (Includes Rental Car)	74 %
9.	Taxi	10 %
10.	Bus (Includes Hotel Shuttles, Limos)	16 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	70 %
13.	Visitors, Well Wishers, Greeters	6 %
14.	Employees	24 %

Vehicle Count

15.	Number of Vehicles Per Passenger	1.1 annual; 1.5 peak hours

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Civil Memorial Code ALN

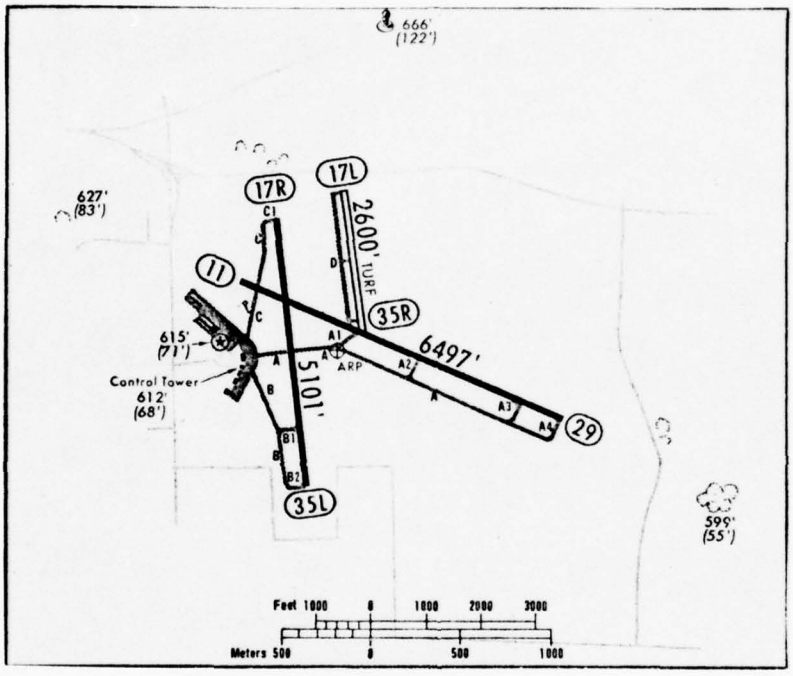
Hub Name St. Louis Master Plan Status 1973

Approximate Distance and Direction to Hub CBD 22 Miles Southwest

Approximate Distance and Direction to Hub Air Carrier Airport 23 Miles Southwest

Name of That Airport Lambert-St. Louis International Number of Commuters 1

Approximate Number of Employees at Airport 250 as of 1975



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At Alton airport there is a master plan which was produced in June 1973 and consists of six phases for the expansion of the airport. However, there is no decision even on the first phase. There are two alternatives for Phase 1. The first alternative is to acquire clear zones for Runways 29, 17R and 11 at a cost of between $700,000 and $1,000,000. The second alternative is to construct a parallel runway 17L-35R at a cost of $625,000.

On June 17, 1976, the state of Illinois announced approval of a $3.6 million airport development project for this airport. The following items are included in that project:

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1. Acquisitions of land in clear zones and other key locations at this airport, $1.2 million

2. The overlay, widening and strengthening of Runway 11-29 including the installation of high intensity lights, $2.4 million.

Also, alternate "B" of "Phase 1" which includes the construction of a parallel Runway 17L-35R was also requested. Although this project received a high priority, it fell five (5) projects short of being approved. It is still possible that the parallel runway will be approved during FY77. If it is not approved, the airport feels that it appears almost certain that it will be approved during FY78.

PART 1. DEMAND FORECASTS

	Year:	Actual 1975	1976	Forecast 1977	1978	1981
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	1.0				
1a.	Air Taxi	0.5				
2.	General Aviation	139.0				
2a.	Itinerant	51.0				
2b.	Local	88.0				
3.	Military	14.0				
4.	Total Aircraft Operations	154.0				
5.	Total FAA 1974 Forecasts		174	181	190	225
	Aircraft Movements					
6.	Peak-Day	1300				
7.	Peak-Hour	185				
	Based Aircraft					
8.	Fixed Wing	122				
8a.	Single Engine	85				
8b.	Jets	4				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	122				

ALN

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	11	6500	8000	1985	ILS	Same	
2.	29	6500	8000	1985	ILS	Same	
3.	17R	5200	Same	--	VOR	Same	
4.	35L	5200	Same	--	VOR	Same	
5.	17L	2500	3900	1979	VFR	Same	
6.	35R	2500	3900	1979	VFR	Same	
7.	29R	None	3900	1985	--	VFR	
8.	11L	None	3900	1985	--	VFR	
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-9

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA, 0 Class A, 0 Class B, 3 Class C, 27 Class D, 70 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	11/29
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Year: Actual 1975	Forecast			
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	125				
23.	Maximum Hourly Capacity (IFR)	65				
24.	Practical Annual Capacity (000)	250				

ALN

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1985			
1. Parking Apron Area (000 sq ft)	246.2				
2. Hangar Area (000 sq ft)	204.8				
3. T-Hangar Parking Positions	42				
4. Conventional Hangars	1				
5. Terminal Building Area (sq ft)	6000	12000			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1975	1977			
1. Automobile Parking Spaces	280	560			
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

ALN

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7,8/3	Runway	3900 ft	1975-1976	1500	1975
New runway 29R/11L.					
3/5/2	Terminal	6000 sq ft	1985		
New terminal.					
4/1/2	Parking	280 spaces	1977	300	1975
Parking lots.					
4/2/	Roadway	100%	1985	3000	1975
Access roads.					

ALN

AIR CARRIER AIRPORT DATA LIST

Airport Name St. Louis International Code STL

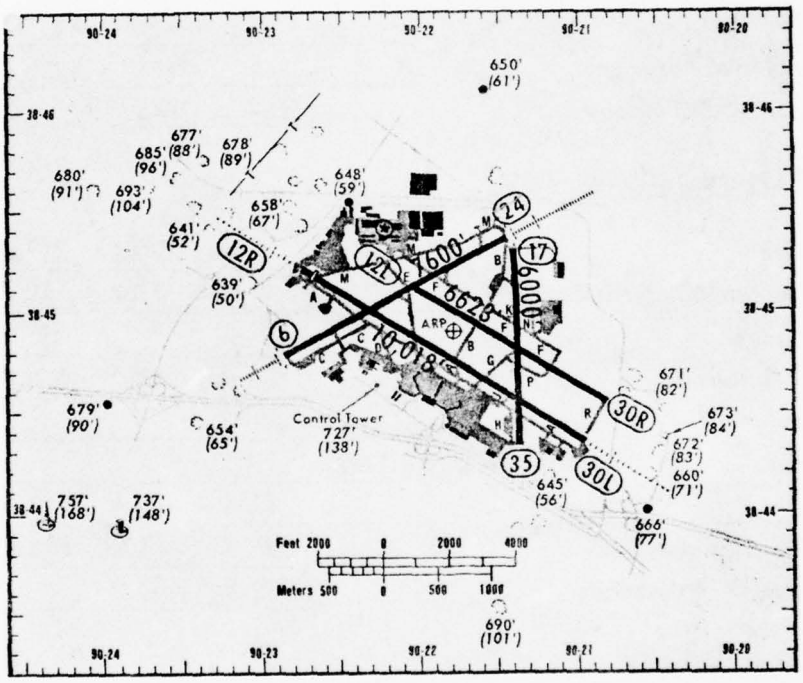
Hub Name St. Louis Master Plan Status Underway

Approximate Distance and Direction to Hub CBD 10 Miles Southeast

Approximate Number of Employees at Airport 3500 as of 1975

Number of Air Carriers 10 Commuters 16

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973	1980	1985	1990	1995
	Enplaned Passengers (000)					
1.	Air Carrier		5385	7400	9170	11280
2.	Commuter (Including Air Taxi)	27	41	55	68	83
2a.	Air Taxi					
3.	Connecting *		2283	3201	4007	4969
4.	Originating *	2031	3102	4199	5163	6311
5.	Domestic					
6.	International					
7.	Total Enplaned Passengers		5426	7455	9238	11363
8.	Total FAA 1974 Forecasts		5557	7645		
	Aircraft Operations (000)					
9.	Air Carrier	163.0	183.4	206.1	219.6	237.1
10.	Commuter (Including Air Taxi)	28.1	33.7	37.2	40.2	43.3
10a.	Air Taxi					
11.	General Aviation	129.9	170.9	208.2	252.0	303.7
11a.	Itinerant	118.2				
11b.	Local	11.7				
12.	Military		13.4	13.4	13.4	13.4
13.	Total Aircraft Operations	321.0	401.4	464.9	525.2	597.5
14.	Total FAA 1974 Forecasts		399.0	462.0		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	1933	3090	4190	5140	6250
16.	Aircraft		53	59	62	66
	Cargo					
17.	Total Enplaned Cargo (000 Tons)		106.1	139.2	179.4	229.0

*Excludes commuter passengers.

STL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	6	6460			ILS
2.	24	6460			ILS
3.	12L	8966	10000		VFR
4.	30R	8843	10000		VFR
5.	12R	8966	11000		ILS
6.	30L	8843	11000		ILS
7.	17	6000			VFR
8.	35	6000			VFR
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 7.9 Class AA 79.2 Class A 12.9 Class B
0 Class C 0 Class D 0 Class E

		Actual	Forecast			
	Year:	1974	1980	1985	1990	1995
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	120				
17.	Maximum Hourly Capacity (IFR)	70				
18.	Minimum Hourly Capacity (IFR)					
19.	Practical Annual Capacity (000)		276	335	348	380

STL

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	1995
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	40				
1a. International Terminal	0	1	2		2
2. Wide Body Parking Positions	24				
2a. International Terminal	0				
3. Gates (Passenger Exits)	34	37	44		49
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet	350				
4a. International Terminal	0				
5. Stations	40				
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)	4890	10000	13000		17500
6a. International Terminal					
7. Equipment Types	4 carousels				
8. Equipment Capacity (bags/min)	85				
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers	3				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	3				
11a. International Terminal	0				

STL

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1975	1980	1985	1990	1995
	Terminal Area (000 sq ft)					
12.	Total Area	343.9	507.1	679.1		926.3
12a.	International Terminal	0	0			
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	2180	3090	4190		6250
14.	Annual (000)	3439	5071	6791		9263
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	200				
16.	Apron Area (000 sq ft)	700				
17.	Aircraft Parking Positions	20				
18.	Truck Loading Docks	27				
19.	Cargo Loading Type ____ Manual	X Semi-Automatic	____ Fully Automatic			
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)					
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1975				
	Automobile Parking Spaces					
1.	Total Public	6500				
1a.	Short Term	4080				
2.	Rental Car	2000				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	3800				
4a.	Enplaned	1800				
4b.	Deplaned	2000				
5.	International Terminal Lineal Feet	0				
5a.	Enplaned	0				
5b.	Deplaned	0				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	90 %				
9.	Taxi	5 %				
10.	Bus (Includes Hotel Shuttles, Limos)	5 %				
11.	Subway, Rail, Other	0 %				
	Percentage of People Entering Airport					
12.	Passengers	65 %				
13.	Visitors, Well Wishers, Greeters	25 %				
14.	Employees	10 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3,4/3	Runway	1100 ft.			
Extend 12L-30R to 10000'.					
2/5,6/3	Runway	2100 ft.			
Extend 12R-30L to 11000'.					
2/3,4/5	Runway/Taxiway				
High Speed Turnoffs; Two ILS Systems for Runway 12L-30R; Taxiways					
3/12/2	Terminal				
Expand Passenger Terminal Eastwards.					
3/	Cargo				
Relocate Air Cargo to the West of Runway 6-24.					
4/3	Road				
Expand Access Road.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Spirit of St. Louis Code SUS

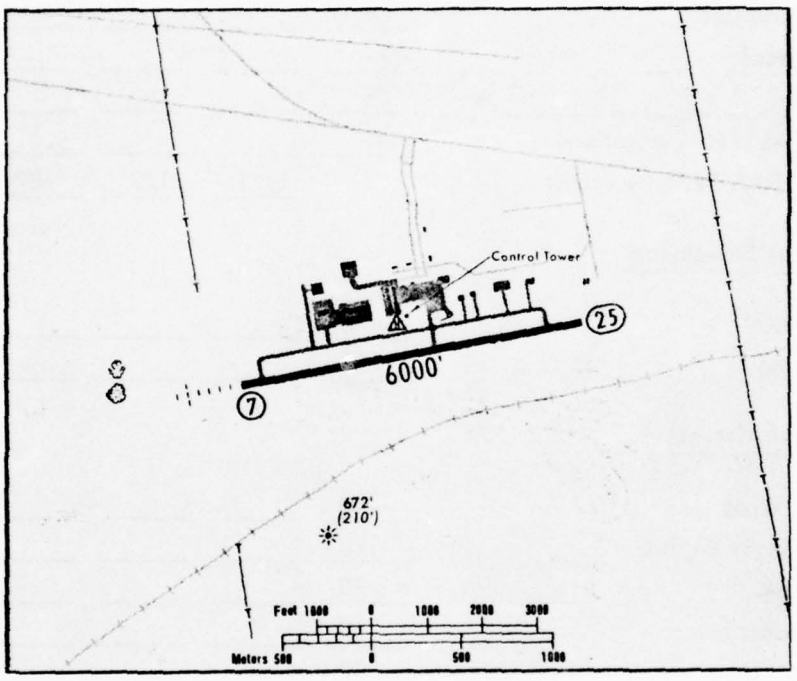
Hub Name St. Louis Master Plan Status None

Approximate Distance and Direction to Hub CBD 20 Miles Southeast

Approximate Distance and Direction to Hub Air Carrier Airport 16 Miles Southeast

Name of That Airport Lambert-St. Louis International Number of Commuters 0

Approximate Number of Employees at Airport 1000 as of 1976



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There are plans for expanding Spirit of St. Louis. However, the Airport Manager pointed out that since the airport is privately owned, it would be extremely difficult to acquire the necessary capital. These plans were not made available for this study. The airport manager estimated that 75 percent of the general aviation operational activity is related to business.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1976	1977	1978	1981
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	4				
1a.	Air Taxi	4				
2.	General Aviation	144				
2a.	Itinerant	63				
2b.	Local	81				
3.	Military	1				
4.	Total Aircraft Operations	149				
5.	Total FAA 1974 Forecasts		171	179	187	222
	Aircraft Movements					
6.	Peak-Day	1000				
7.	Peak-Hour	223				
	Based Aircraft					
8.	Fixed Wing	300				
8a.	Single Engine	175				
8b.	Jets	25				
8c.	Seaplane	0				
9.	Rotary Wing	10				
10.	Total Based Aircraft	310				

SUS

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	7	6000	Same	-	ILS		-
2.	25	6000	Same	-	ILS		-
3.	7L	None	3000			VFR	
4.	25R	None	3000			VFR	
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-9

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 1 Class B; 15 Class C; 35 Class D; 49 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	7/25
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	Yes			

	Year:	Actual 1975		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	78				
23.	Maximum Hourly Capacity (IFR)	35				
24.	Practical Annual Capacity (000)	350				

SUS

ART 3. TERMINAL FACILITIES AND CAPACITIES

Year:	Actual 1975		Forecast		
1. Parking Apron Area (000 sq ft)	893.0				
2. Hangar Area (000 sq ft)	441.0				
3. T-Hangar Parking Positions	68				
4. Conventional Hangars	7				
5. Terminal Building Area (sq ft)	14000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

Year:	Actual 1975		Forecast		
1. Automobile Parking Spaces	350				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

SUS

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3,4/3	Runway	100%		250	1975
Add parallel runway.					
2/Various		50%		100	1975
Upgrade taxiway system.					
4/Various		0			
Sewer system, additional service roadways.					

SUS

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Buchanan Field (Concord) Code CCR

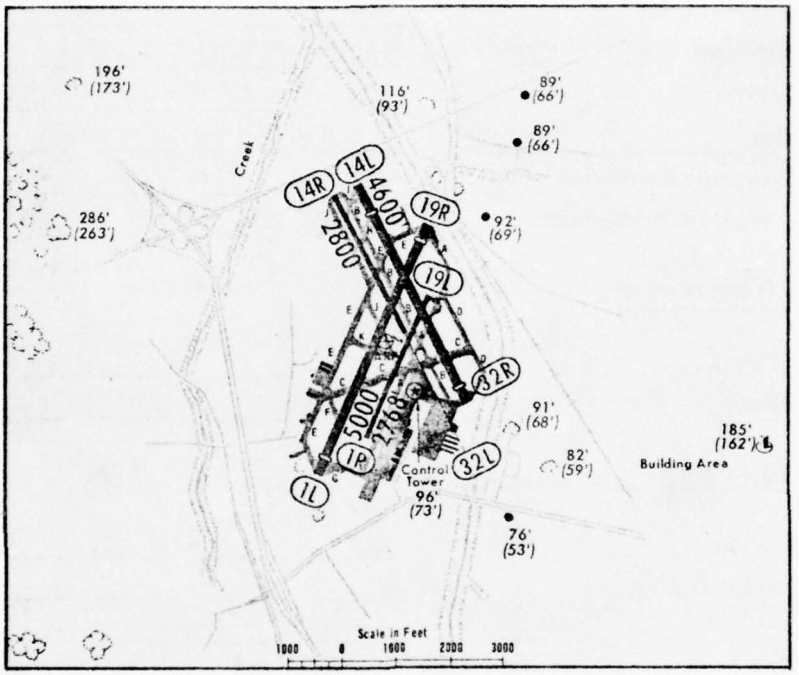
Hub Name San Francisco Master Plan Status None

Approximate Distance and Direction to Hub CBD 30 Miles Southwest

Approximate Distance and Direction to Hub Air Carrier Airport 30 Miles Southwest

Name of That Airport Oakland International Number of Commuters 1

Approximate Number of Employees at Airport 240 as of 1975



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Buchanan Field is located about sixty miles from the SFO Central Business District and handles G.A. traffic only. The nearest commercial air carrier airport is Oakland.

The only firm runway project involves an ILS installation on the primary runway (19R). There are some plans to add a new terminal on the west side which would be four times larger than the present facilities. However, no firm plans exist as to the timing and cost of this expansion.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1976	1977	1978	1981
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	2				
1a.	Air Taxi	1				
2.	General Aviation	300				
2a.	Itinerant	150				
2b.	Local	150				
3.	Military	0.5				
4.	Total Aircraft Operations	302.5				
5.	Total FAA 1974 Forecasts		364	380	398	429
	Aircraft Movements					
6.	Peak-Day	1600				
7.	Peak-Hour	60				
	Based Aircraft					
8.	Fixed Wing	472				
8a.	Single Engine	450				
8b.	Jets	0				
8c.	Seaplane	1				
9.	Rotary Wing	0				
10.	Total Based Aircraft	472				

CCR

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	01L	5000'	Same	-	VFR		
2.	19R	5000'	Same	-	VFR	ILS	1976
3.	01R	3000'	Same	-	VFR		
4.	19L	3000'	Same	-	VFR		
5.	14L	4600'	Same	-	VFR		
6.	32R	4600'	Same	-	VFR		
7.	14R	3000'	Same	-	VFR		
8.	32L	3000'	Same	-	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-727

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 0 Class C; 5 Class D; 95 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	19R
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

Year:	Actual 1975		Forecast		
Airside Capacities (Operations)					
22. Maximum Hourly Capacity (VFR)	60				
23. Maximum Hourly Capacity (IFR)	10				
24. Practical Annual Capacity (000)	500				

CCR

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	972.0				
2. Hangar Area (000 sq ft)	551.3				
3. T-Hangar Parking Positions	100				
4. Conventional Hangars	5				
5. Terminal Building Area (sq ft)	2500				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	460				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

CCR

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
1/6	Runway	0	1976	400	1975

ILS on 19R.

3/5/- 7500 sq. ft (est.)

Additional Terminal on West Side, date of completion not known.

4/2/-

Extend Roadway to the New Proposed Terminal.

4/1/-

Add Parking Places for the New Terminal.

CCR

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Hayward Air Terminal Code HWD

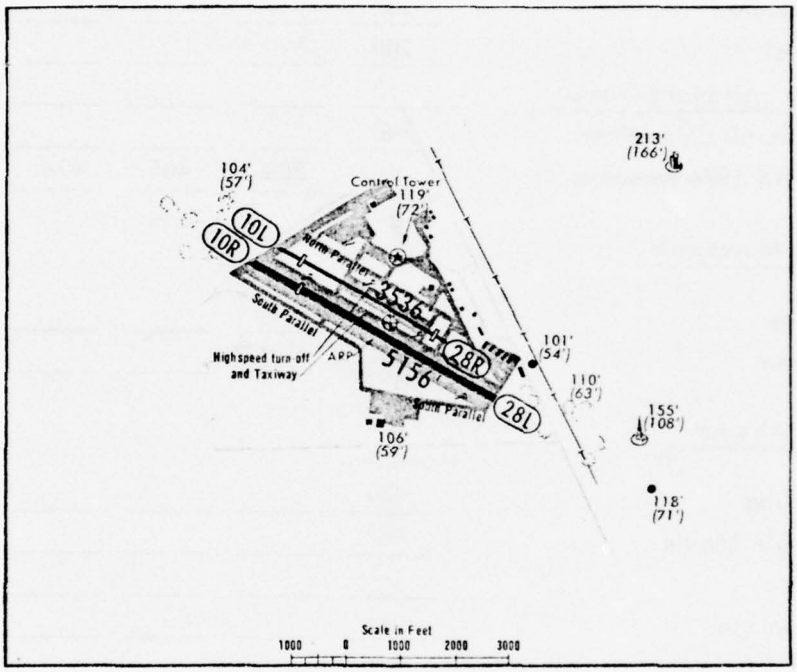
Hub Name San Francisco Master Plan Status 1971

Approximate Distance and Direction to Hub CBD 25 Miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 8 Miles Northwest

Name of That Airport Oakland International Number of Commuters None

Approximate Number of Employees at Airport 175 as of 1975



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At Hayward there are plans to improve the runway system and the terminal. However, the timing and the expected capacity increase were not known. In 1971 a study conducted for the airport indicated that it would cost about 3.9 million dollars to undertake the expansion program.

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PART 1. DEMAND FORECASTS

	Year:	Actual 1973	Forecast 1976	1977	1978	1981
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0				
1a.	Air Taxi	0				
2.	General Aviation	337				
2a.	Itinerant	137				
2b.	Local	200				
3.	Military Air Nat'l Guard	3				
4.	Total Aircraft Operations	340				
5.	Total FAA 1974 Forecasts		388	405	424	457
	Aircraft Movements					
6.	Peak-Day	1400				
7.	Peak-Hour	250				
	Based Aircraft					
8.	Fixed Wing	470				
8a.	Single Engine	400				
8b.	Jets	--				
8c.	Seaplane	--				
9.	Rotary Wing	0				
10.	Total Based Aircraft	470				

HWD

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	10L	3100	Same	--	VFR		
2.	28R	3100	Same	--	VFR		
3.	10R	5100	6000	1995	VFR		
4.	28L	5100	6000	1995	VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-727

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 1 Class C; 5 Class D; 94 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	10/28
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

	Year:	Actual 1975		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	300				
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	500				

HWD

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	1036.8				
2. Hangar Area (000 sq ft)	535.5				
3. T-Hangar Parking Positions	56				
4. Conventional Hangars	10				
5. Terminal Building Area (sq ft)	1000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces					
2. Access Road Capacity (vehicles/hr)	4800				
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	Subway				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3,4/3	Runway	900 ft	1990	150	1971
Runway extension.					
2/3,4/3			1995	228	1971
Upgrade taxiway.					
3/1,2/-	Apron, Hangar		1985	700	1975
Additional space for aircraft parking.					
3/5/-			1980	500	1975
Terminal building.					
3/3/			1980	1,000	1975
Additional T-hangars.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Metropolitan Oakland International - North Code OAK

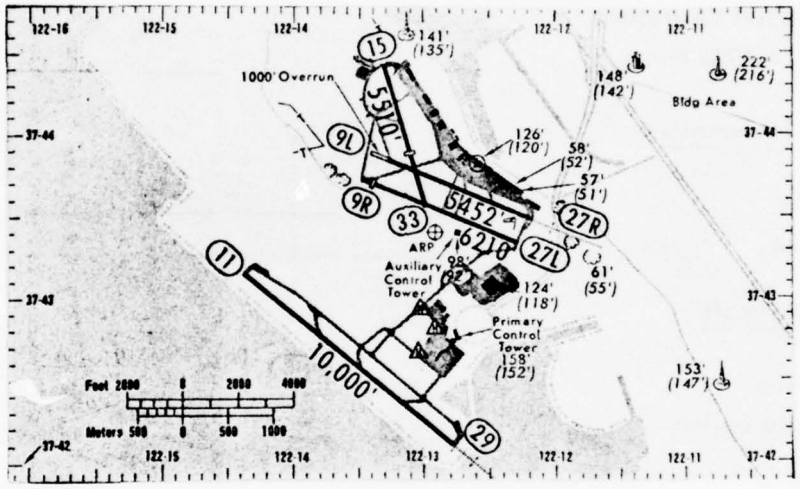
Hub Name San Francisco Master Plan Status None

Approximate Distance and Direction to Hub CBD 20 Miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 1 Mile South

Name of That Airport Oakland - South Number of Commuters 2

Approximate Number of Employees at Airport _____ as of _____



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Metropolitan Oakland International Airport (OAK) has been considered as two airports for this study: Oakland-North as a general aviation facility and Oakland-South as the air carrier facility. This is a natural division since operations at each area are largely independent of one another, even to the extent that two control towers are used.

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PART 1. DEMAND FORECASTS

		Actual		Forecast		
	Year:	1974				
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)					
1a.	Air Taxi	5				
2.	General Aviation	260				
2a.	Itinerant	120				
2b.	Local	140				
3.	Military	2				
4.	Total Aircraft Operations	267				
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day	1194				
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	450				
8a.	Single Engine	285				
8b.	Jets					
8c.	Seaplane	10				
9.	Rotary Wing	15				
10.	Total Based Aircraft	465				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9L	5400	Same	-	VFR		
2.	27R	5450	Same	-	ILS		
3.	9R	6000	Same	-	VOR		
4.	27L	6210	Same	-	VOR		
5.	15	3400	Same	-	VFR		
6.	33	3400	Same	-	VFR		
7.	16	None	3450	1982	-	VFR	1982
8.	34	None	3450	1982	-	VFR	1982
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway B-727

11a. Class of This Aircraft: AA A (B) C D E

12. Fleet Mix (Percentage) ____ Class AA ____ Class A ____ Class B ____ Class C ____ Class D ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	27R
16.	Vortac Station	Yes	21.	Joint Use	No
17.	Weather Station	Yes			

	Year:	Actual 1975		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	198				
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	546				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	972				
2. Hangar Area (000 sq ft)	472.5				
3. T-Hangar Parking Positions	42				
4. Conventional Hangars	11				
5. Terminal Building Area (sq ft)					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

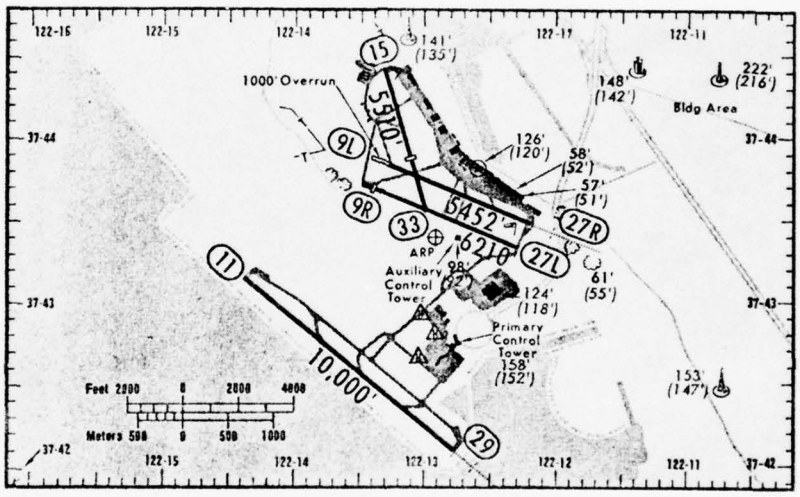
	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	2200				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	Yes				
5. Rail, Subway, Other Access	Yes				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/5,6/3		0	1982		
Relocate Runway 15/33.					
3/6			1980	150	1975
Build a Small Guest Terminal.					
4/2			1980	1,300	1975
Upgrade the Road System.					
2/7,8/-	Runway	3450 ft	1982		
Build new runway 16/34 for general aviation.					

AIR CARRIER AIRPORT DATA LIST

Airport Name Metropolitan Oakland International - South Code OAK
Hub Name San Francisco Master Plan Status 1975
Approximate Distance and Direction to Hub CBD 20 Miles Northwest
Approximate Number of Employees at Airport _____ as of _____
Number of Air Carriers 8 Commuters 2
Terminal Type: ____Linear X Pier ____ Satellite ____Transporter



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Oakland is one of three major commercial airports in the Bay Area. Most regional plans indicate that Oakland will absorb the lion's share of all growth in regional air traffic. For example, Oakland handled about 2.4 million passengers in 1975. It is expected to handle almost 24 million by 1985.

One reason for expanding Oakland is its unique position to absorb its share without significant environmental impacts. The major constraint to expansion is ground

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access. No major additions to the regional highway system are planned due to the highway congestion in the vicinity of the airport. However, the regional transportation plan developed by the Metropolitan Transportation Commission calls for greater emphasis on transit and as such calls for a fixed guideway transit linkage with the existing BART system.

The airport is divided into two parts: North and South. Each part is treated as a separate airport. The North airport handles G.A. traffic only. The South airport handles air carrier traffic. Almost all of the expansion is expected to take place at the South airport, namely the addition of a parallel runway and a four fold increase in the size of the terminal.

PART 1. DEMAND FORECASTS

		Actual Year: 1974	Forecast 1980	1985	1990	1995
	Enplaned Passengers (000)					
1.	Air Carrier	1100				
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting	0				
4.	Originating	1100				
5.	Domestic	1100				
6.	International	0				
7.	Total Enplaned Passengers	1100	1800	3800	6500	12000
8.	Total FAA 1974 Forecasts		1217	1817		
	Aircraft Operations (000)					
9.	Air Carrier	58	67	101	163	
10.	Commuter (Including Air Taxi)					
10a.	Air Taxi	7				
11.	General Aviation	0				
11a.	Itinerant	0				
11b.	Local	0				
12.	Military Coast Guard	3				
13.	Total Aircraft Operations	68	94	136	205	
14.	Total FAA 1974 Forecasts *		455	511		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	1148				
16.	Aircraft	22				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	2.9				

*Separate forecasts for North and South airports not available.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	11	10000	12500	1978	ILS
2.	29	10000	12500	1978	ILS-II
3.	11	None	12500	1990	
4.	29	None	12500	1990	
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 0 Class AA 8.0 Class A 88.0 Class B
4.0 Class C 0 Class D 0 Class E

	Actual	Forecast			
Year:	1975				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	45				
17. Maximum Hourly Capacity (IFR)	36				
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)	179				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1975	Forecast			
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	15				
1a. International Terminal	2				
2. Wide Body Parking Positions	10				
2a. International Terminal	3				
3. Gates (Passenger Exits)	15				
3a. International Terminal	4				
Ticket Counters					
4. Linear Feet	370				
4a. International Terminal	30				
5. Stations					
5a. International Terminal	2				
Baggage Claim					
6. Public Area (sq ft)	10200				
6a. International Terminal	48				
7. Equipment Types	3 carousels				
8. Equipment Capacity (bags/min)	70				
8a. International Terminal	30				
Security Inspection					
9. Parallel Passenger Servers	3				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	2				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	1				
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1975				1995
	Terminal Area (000 sq ft)					
12.	Total Area	262				1000
12a.	International Terminal	16				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	2200				
14.	Annual (000)	5000				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	65				
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions	3				
18.	Truck Loading Docks	50				
19.	Cargo Loading Type	X Manual	___ Semi-Automatic		___ Fully Automatic	
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	See North Terminal - Oakland				
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual Year: 1975			Forecast 1990	
	Automobile Parking Spaces					
1.	Total Public	3200			10000	
1a.	Short Term	434				
2.	Rental Car	162				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2700				
	Curb Frontage					
4.	Lineal Feet	530				
4a.	Enplaned	-				
4b.	Deplaned	-				
5.	International Terminal Lineal Feet					
5a.	Enplaned					
5b.	Deplaned					
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	Yes (Heliport)				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	89 %				
9.	Taxi	4.5 %				
10.	Bus (Includes Hotel Shuttles, Limos)	2 %				
11.	Subway, Rail, Other	4.5 %				
	Percentage of People Entering Airport					
12.	Passengers	41 %				
13.	Visitors, Well Wishers, Greeters	48 %				
14.	Employees	11 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	0.83				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2/3	Runway	2500 ft	1978		
Increase Runway 11/29 from 10000' to 12500'.					
2/3,4/3	Taxiway	12500 ft	1990		
Add a runway parallel to existing 11/29.					
3/12/	Terminal	738K sq.ft	1995		
Expand existing terminal.					
4/3	Roadways				
Additional Roadways plus BART.					
4/1/4	Auto Parking	6800 spaces	1990		
Increase Parking Places to 10000.					

AIR CARRIER AIRPORT DATA LIST

Airport Name San Francisco International Code SFO

Hub Name San Francisco Master Plan Status 1973

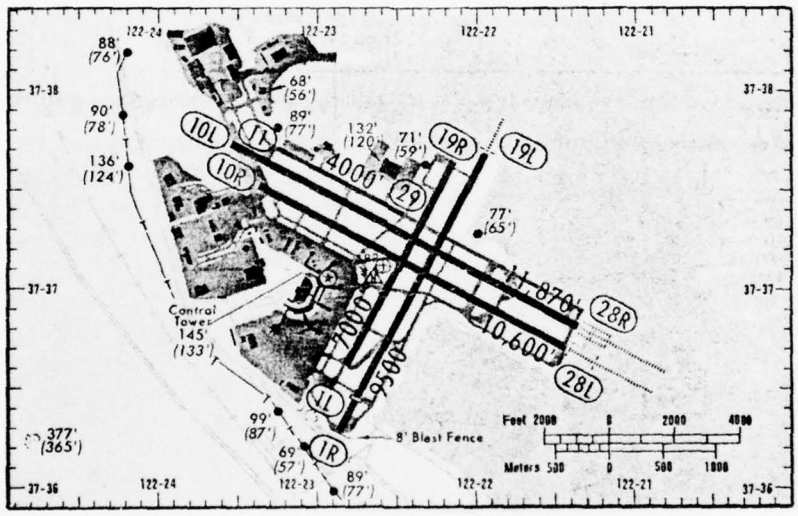
Approximate Distance and Direction to Hub CBD 13 miles Northwest

Approximate Number of Employees at Airport 29,418* as of 1975

Number of Air Carriers 20 Commuters 2

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter

* Includes United's Maintenance Facility Employees



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There have been a number of airport system studies in the Bay Area. The three studies often referred to are:

- Bay Area Study of Aviation Requirements (BASAR)
- Regional Airport System Study (RASS)
- RASS II

The BASAR was sponsored by the three Bay Area air carrier airports: San Francisco, Oakland and San Jose. Later in the RASS studies, a number of alternative plans were considered for satisfying the Bay Area air transportation demand. It is important to realize, "that each airport in the region is but one element in a complex system and that each airport must play its assigned role in that system or the entire system will be jeopardized."

In June 1973 the Metropolitan Transportation Committee (responsible for the regional transportation plan) adopted the recommendations of RASS I. This plan calls for simultaneously developing all existing Bay Area air carrier airports to their ultimate capacity by 1985, resulting in the following activity levels (expressed in terms of on and off passengers):

- San Francisco — 31 million passengers
- Oakland — 24 million passengers
- San Jose — 10 million passengers

Based on these recommendations, the regional system plans and the master plan for San Francisco International have been updated and amended.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1982	1990		
	Enplaned Passengers (000)					
1.	Air Carrier	7458				
2.	Commuter (Including Air Taxi)	60				
2a.	Air Taxi					
3.	Connecting	527				
4.	Originating	8173				
5.	Domestic	8179				
6.	International	521				
7.	Total Enplaned Passengers	8700	13100	16650		
8.	Total FAA 1974 Forecasts		11820			
	Aircraft Operations (000)					
9.	Air Carrier	287.5	291.4	285.1		
10.	Commuter (Including Air Taxi)	31.9				
10a.	Air Taxi					
11.	General Aviation	8.6				
11a.	Itinerant					
11b.	Local					
12.	Military Coast Guard	6				
13.	Total Aircraft Operations	334.0	367.6	361.3		
14.	Total FAA 1974 Forecasts		423			
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft	34				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	183				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	1L	7000	Same		ILS
2.	19R	7000			VFR
3.	1R	8400	Same		VFR
4.	19L	8400			ILS
5.	10L	11870	Same		VFR
6.	28R	11870			ILS-III
7.	10R	10600	Same		VFR
8.	28L	10600			ILS
9.	11	4000	Same		VFR
10.	29	4000			VFR
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 8.5 Class AA 23.2 Class A 44.2 Class B
5.2 Class C 8.3 Class D 10.6 Class E

		Actual	Forecast			
	Year:	1975				
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	80				
17.	Maximum Hourly Capacity (IFR)	60				
18.	Minimum Hourly Capacity (IFR)	44				
19.	Practical Annual Capacity (000)	370				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	56				
1a. International Terminal	8				
2. Wide Body Parking Positions	42				
2a. International Terminal	6				
3. Gates (Passenger Exits)	60				
3a. International Terminal	13				
Ticket Counters					
4. Linear Feet	1000				
4a. International Terminal	200				
5. Stations	134				
5a. International Terminal	42				
Baggage Claim					
6. Public Area (sq ft)	34				
6a. International Terminal	4				
7. Equipment Types	16 carousels				
8. Equipment Capacity (bags/min)	960				
8a. International Terminal	n/a				
Security Inspection					
9. Parallel Passenger Servers	12				
9a. International Terminal	2				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	7				
11a. International Terminal	1				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1975	1979	1985		
	Terminal Area (000 sq ft)					
12.	Total Area	360	540	1000		
12a.	International Terminal	10				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	4000				
14.	Annual (000)	12000				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	360				
16.	Apron Area (000 sq ft)	720				
17.	Aircraft Parking Positions	16				
18.	Truck Loading Docks					
19.	Cargo Loading Type ____ Manual	X	Semi-Automatic	____	Fully Automatic	
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	6000				
21.	Apron Area (000 sq ft)	500				
22.	Hangar Area (sq ft)	40000				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1975	1979			
	Automobile Parking Spaces					
1.	Total Public	5800	7500			
1a.	Short Term	3000				
2.	Rental Car	850				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	1100*				
	Curb Frontage					
4.	Lineal Feet	3860				
4a.	Enplaned	1800				
4b.	Deplaned	2060				
5.	International Terminal Lineal Feet	722				
5a.	Enplaned	360				
5b.	Deplaned	412				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	Heliport				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	72 %				
9.	Taxi	9 %				
10.	Bus (Includes Hotel Shuttles, Limos)	15 %				
11.	Subway, Rail, Other	4 %				
	Percentage of People Entering Airport					
12.	Passengers	40 %				
13.	Visitors, Well Wishers, Greeters	34 %				
14.	Employees	26 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	0.83				

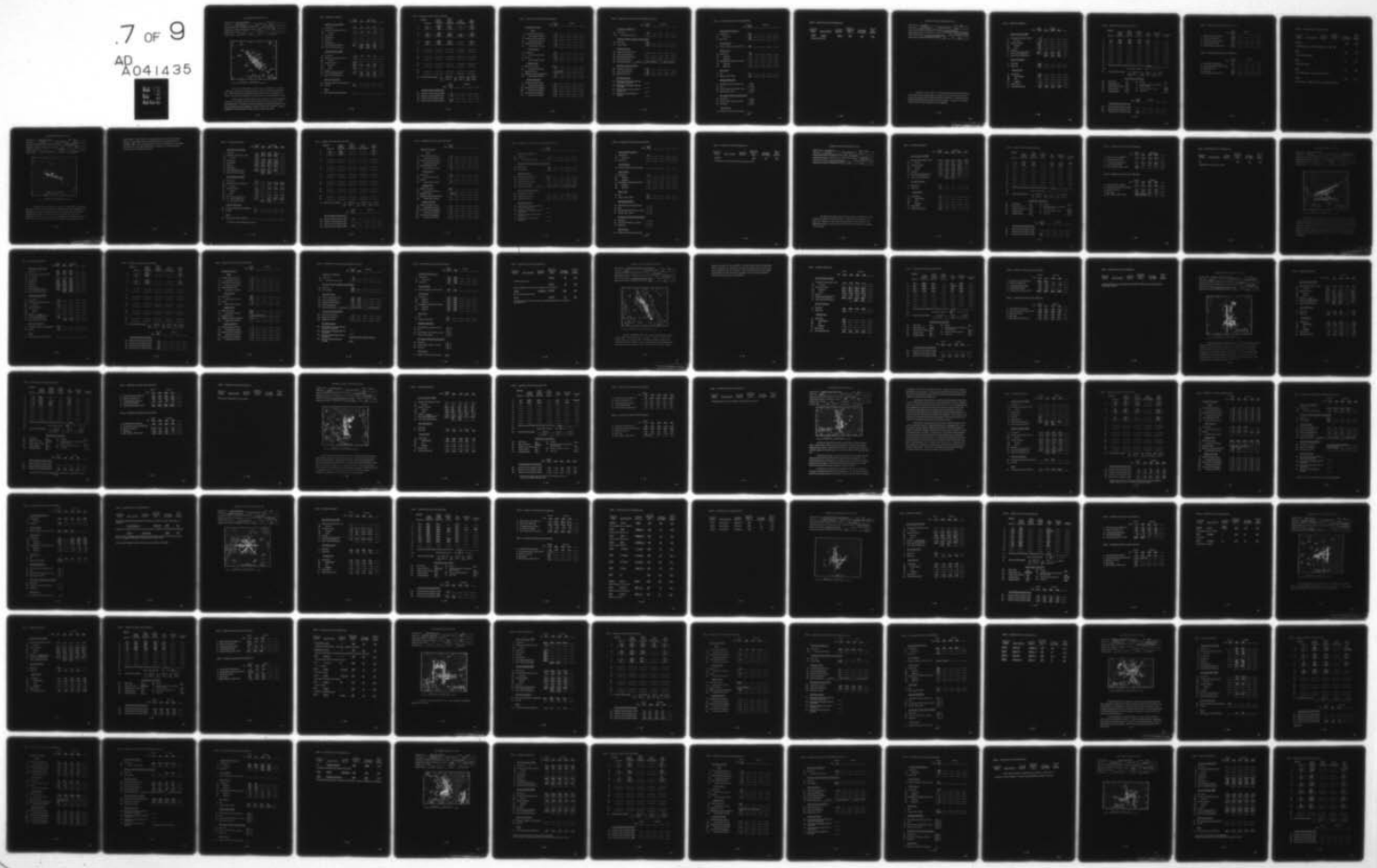
* Passenger Terminal

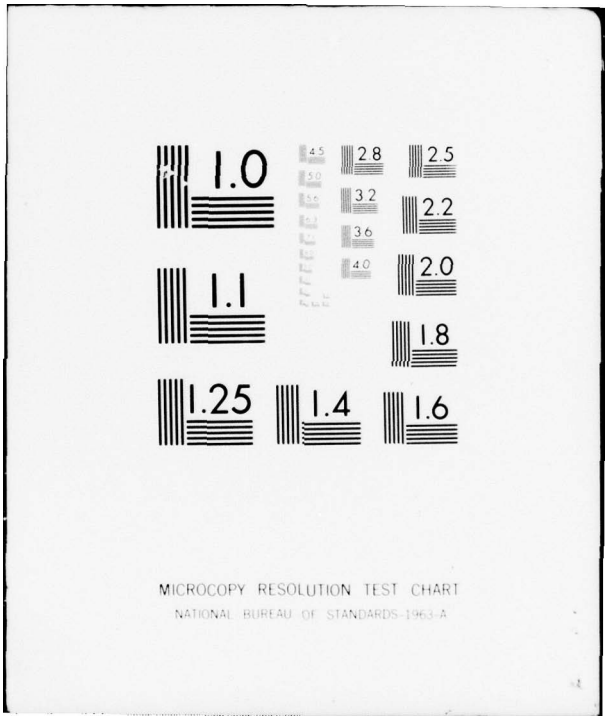
PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/Various	Taxiway and Apron	0	1980	16,000	1975
Upgrade taxiways and apron area.					
3/12/2	Terminal	180000 sq ft	1979	65,000	1975
New North Terminal.					
3/12/3	Terminal	460000 sq ft	1985	130,000	1975
Add to and upgrade the present terminal.					
4/1/2	Garage	1700 spaces	1979	85,000	1975
Add to the present garage.					
4/Various	Property	0	1985	4,000	1975
Obtain access to and develop additional property.					

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA
UNCLASSIFIED FAA-AVP-77-26 NL

.7 OF 9
AD A041435




1.0
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1.25
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4.5
5.0
5.5
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AIR CARRIER AIRPORT DATA LIST

Airport Name San Jose Municipal Code SJC

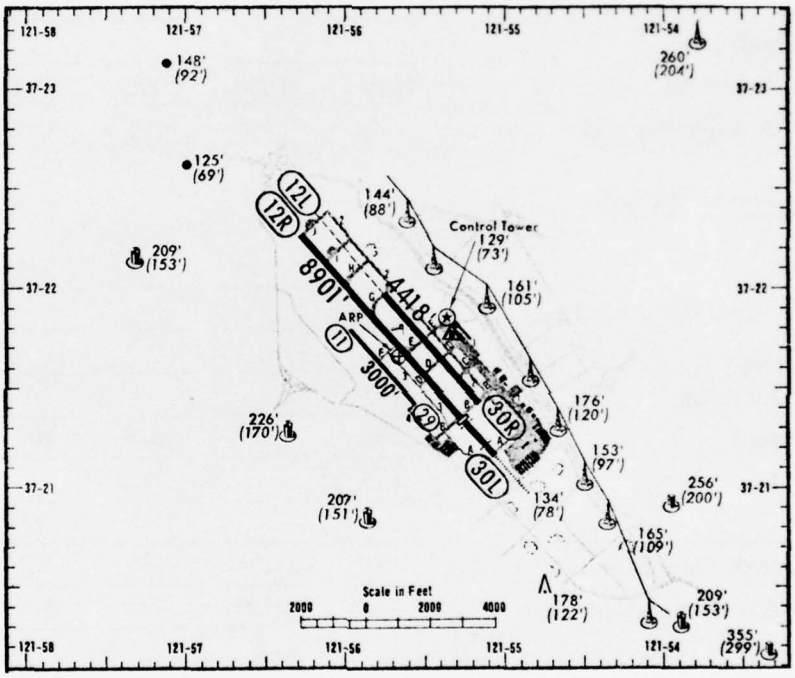
Hub Name San Francisco Master Plan Status 1973

Approximate Distance and Direction to Hub CBD 65 Miles Northwest

Approximate Number of Employees at Airport 350 as of 1975

Number of Air Carriers 10 Commuters 2

Terminal Type: X Linear ____ Pier ____ Satellite ____ Transporter



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San Jose is the third major air carrier airport in the Bay Area. At present it is handling a commercial air passenger demand in excess of two million passengers per year. Regional commercial air passenger forecasts indicate that the demand for air travel at San Jose can be expected to increase to about ten million passengers by 1985.

There are plans to acquire adjacent land to provide a clear and safe approach area south of the airport and to reduce as much sensitive land use as possible within this approach area. This project is not for the purpose of increasing the capacity of runways, extending runways or introducing a larger or noisier class of aircraft. However, regardless of this land acquisition there is a plan to expand runway 30R.

PART 1. DEMAND FORECASTS

		Actual Year: 1973	Forecast 1975	1977	1985	
	Enplaned Passengers (000)					
1.	Air Carrier	968	1214	1419	3471	
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi	15	24	34	84	
3.	Connecting					
4.	Originating					
5.	Domestic					
6.	International					
7.	Total Enplaned Passengers	1013	1500	3000	4000	
8.	Total FAA 1974 Forecasts		1240	1400	2134	
	Aircraft Operations (000)					
9.	Air Carrier	50	54	54	81	
10.	Commuter (Including Air Taxi)	8.7				
10a.	Air Taxi					
11.	General Aviation	347.3				
11a.	Itinerant	200	212	238	289	
11b.	Local	147.3				
12.	Military	1				
13.	Total Aircraft Operations	407	404	439	521	
14.	Total FAA 1974 Forecasts		440	496	614	
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft	209				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	3				

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	11	3000	Same	-	VFR
2.	29	3000	Same	-	VFR
3.	12L	4400	Same	-	VFR
4.	30R	4400	8900	1980	VFR
5.	12R	8900	Same	-	ILS
6.	30L	7425	Same	-	ILS
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 0 Class AA 3 Class A 20 Class B 5 Class C 32 Class D 40 Class E

	Actual	Forecast			
Year:	1975				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	70				
17. Maximum Hourly Capacity (IFR)	70				
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)	320				

SJC

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1975		Forecast		
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	13				
1a. International Terminal	0				
2. Wide Body Parking Positions	7				
2a. International Terminal	0				
3. Gates (Passenger Exits)	11				
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet	242				
4a. International Terminal	0				
5. Stations	24				
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)	17118				
6a. International Terminal	0				
7. Equipment Types	3 carousels				
8. Equipment Capacity (bags/min)	80				
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers	4				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	2				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	2				
11a. International Terminal	0				

SJC

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1975				
	Terminal Area (000 sq ft)					
12.	Total Area	150				
12a.	International Terminal	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	1400				
14.	Annual (000)	800				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	6				
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions					
18.	Truck Loading Docks					
19.	Cargo Loading Type ___ Manual	X Semi-Automatic	___ Fully Automatic			
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	7700				
21.	Apron Area (000 sq ft)	88				
22.	Hangar Area (sq ft)	237				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

SJC

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
Automobile Parking Spaces					
1. Total Public	1422				
1a. Short Term	193				
2. Rental Car	350				
Access Roadway					
3. Entrance Capacity (vehicles/hour)	1285				
Curb Frontage					
4. Lineal Feet	900				
4a. Enplaned	-				
4b. Deplaned	-				
5. International Terminal Lineal Feet	0				
5a. Enplaned	-				
5b. Deplaned	-				
Mass Transit					
6. Bus	Yes				
7. Subway, Rail, Other	No				
Passenger Modal Split					
8. Automobile (Includes Rental Car)	90 %				
9. Taxi	5 %				
10. Bus (Includes Hotel Shuttles, Limos)	5 %				
11. Subway, Rail, Other	0 %				
Percentage of People Entering Airport					
12. Passengers	32 %				
13. Visitors, Well Wishers, Greeters	42 %				
14. Employees	26 %				
Vehicle Count					
15. Number of Vehicles Per Passenger					

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/4/3	Runway	4500 ft	1980	1500	1975

Expand Runway 30R.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name San Carlos Code SQL

Hub Name San Francisco Master Plan Status None

Approximate Distance and Direction to Hub CBD 35 Miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 18 Miles Northwest

Name of That Airport San Francisco International Number of Commuters 0

Approximate Number of Employees at Airport 161 as of 1975

San Carlos, a G.A. airport, is located about half way between San Francisco International and San Jose Municipal. At present, there is a plan which calls for expansion of the airport with the airside, terminal, and landside. It is expected that the proposed development would cost about 9.3 million dollars. However, it is not known when the work will start or the year it will be completed.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1975	1980]	1985	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.2				
1a.	Air Taxi	0.2				
2.	General Aviation	223				
2a.	Itinerant	113				
2b.	Local	110				
3.	Military	0				
4.	Total Aircraft Operations	223.2	250	333	400	
5.	Total FAA 1974 Forecasts		270	334	375	
	Aircraft Movements					
6.	Peak-Day	1330				
7.	Peak-Hour	200				
	Based Aircraft					
8.	Fixed Wing	339				
8a.	Single Engine	291				
8b.	Jets					
8c.	Seaplane	3				
9.	Rotary Wing	6				
10.	Total Based Aircraft	345	380	420	480	

SQL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	12	2600	4000	1985	VFR		
2.	30	2600	4000	1985	VFR		
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: 12500 lbs

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 14.4 Class C; 58.8 Class D; 26.8 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	16	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	12/30
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

	Year:	Actual 1975		Forecast		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	340				

SQL

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Parking Apron Area (000 sq ft)	920.2				
2. Hangar Area (000 sq ft)	362.3				
3. T-Hangar Parking Positions	105				
4. Conventional Hangars	4				
5. Terminal Building Area (sq ft)	7500				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
1. Automobile Parking Spaces	378				
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

SQL

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2/6				3609	1975
Airfield Development, including landing aids - VASI, REIL					
3/1/1				536	1975
Apron Area Development.					
3/2/1				73	1975
Helipad Development.					
3/5/1				213	1975
Terminal Development, Security and Safety Items.					
Various				4911	1975
Land Acquisition, Hangars and Access, Auto Parking and Roads.					

SQL

AIR CARRIER AIRPORT DATA LIST

Airport Name Mercedita (Ponce) Code PSE

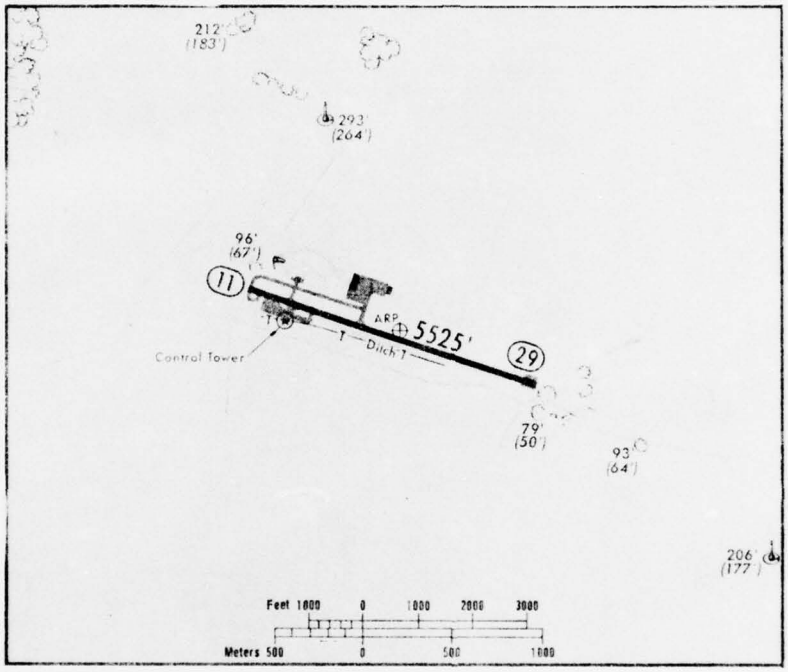
Hub Name San Juan Master Plan Status None

Approximate Distance and Direction to Hub CBD 62 Miles Northeast

Approximate Number of Employees at Airport 70 as of 1975

Number of Air Carriers 1 Commuters 2

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter



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At present there is no master plan for Ponce. In 1971 - 1972, a report was prepared for the new terminal building plan. Most of the information provided in these data sheets are an update of the data contained in that report. Ponce is basically a general aviation airport except that Eastern has minimal service. The carrier is authorized to serve the airport (as a result of the merger with a Caribbean carrier) but has not been very active in scheduling service in and out of Ponce. However, the

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airport authority considers Ponce as a great potential for air carrier service and has forecast air carrier enplanements to increase from about four thousand in 1974 to 118,000 by 1980. Since, strictly speaking, Ponce is an air carrier airport, an attempt was made to fill in the larger airport data list. However, a lot of the information required in parts 3 and 4 was not available.

PART 1. DEMAND FORECASTS

		Actual Year: 1974	Forecast 1980	1985	1990	1995
	Enplaned Passengers (000)					
1.	Air Carrier	4.1	118.0	149.1	181.1	
2.	Commuter (Including Air Taxi)	156.8	238.8	308.4	388.4	
2a.	Air Taxi	25.3				
3.	Connecting	34.4	45.9	58.3	71.5	
4.	Originating	126.5	310.9	399.2	498.0	
5.	Domestic	160.9	356.8	457.5	569.5	
6.	International	0	0	0	0	
7.	Total Enplaned Passengers	160.9	356.8	457.5	569.5	
8.	Total FAA 1974 Forecasts		318.0	567.0		
	Aircraft Operations (000)					
9.	Air Carrier	0.4				
10.	Commuter (Including Air Taxi)	21.1		53.5*	90.9 *	138.3*
10a.	Air Taxi					
11.	General Aviation	11.7		30.0	58.7	77.0
11a.	Itinerant	9.0				
11b.	Local	2.7				
12.	Military	0.5		1.0	1.0	1.0
13.	Total Aircraft Operations	33.7		84.5	150.6	216.3
14.	Total FAA 1974 Forecasts		64.0	93.0		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	71				
16.	Aircraft	37				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)					

*Includes air carrier operations by Eastern.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	11	5525			VFR
2.	29	5525			ILS
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 0 Class AA 0 Class A 1 Class B
18 Class C 8 Class D 73 Class E

	Actual	Forecast			
Year:	1975				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	62				
17. Maximum Hourly Capacity (IFR)					
18. Minimum Hourly Capacity (IFR)					
19. Practical Annual Capacity (000)	125				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual Year: 1975				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	6				
1a. International Terminal	0				
2. Wide Body Parking Positions					
2a. International Terminal	0				
3. Gates (Passenger Exits)	2				
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet	130				
4a. International Terminal	0				
5. Stations					
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)	2400				
6a. International Terminal	0				
7. Equipment Types	Manual				
8. Equipment Capacity (bags/min)					
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers	1				
9a. International Terminal	0				
10. Manual (Carry On Baggage)	1				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)					
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual Year: 1975				
	Terminal Area (000 sq ft)					
12.	Total Area	30				
12a.	International Terminal	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	120				
14.	Annual (000)	300				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	6100				
16.	Apron Area (000 sq ft)	90				
17.	Aircraft Parking Positions	5				
18.	Truck Loading Docks	6				
19.	Cargo Loading Type	X Manual		Semi-Automatic		Fully Automatic
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0				
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)	0				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual Year: 1975				
	Automobile Parking Spaces					
1.	Total Public	335				
1a.	Short Term					
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	25				
4a.	Enplaned					
4b.	Deplaned					
5.	International Terminal Lineal Feet	0				
5a.	Enplaned					
5b.	Deplaned					
	Mass Transit					
6.	Bus	No				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	____%				
9.	Taxi	____%				
10.	Bus (Includes Hotel Shuttles, Limos)	____%				
11.	Subway, Rail, Other	____%				
	Percentage of People Entering Airport					
12.	Passengers	____%				
13.	Visitors, Well Wishers, Greeters	____%				
14.	Employees	____%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2/3			1976	125	1975

Installation of VASI and REIL Systems for Runway 11-29.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Isla Grande **Code** SIG
Hub Name San Juan **Master Plan Status** 1976
Approximate Distance and Direction to Hub CBD 3 Miles West
Approximate Distance and Direction to Hub Air Carrier Airport 7 Miles West
Name of That Airport San Juan International **Number of Commuters** 10
Approximate Number of Employees at Airport 50 **as of** 1975

Isla Grande is the largest general aviation airport on the island and handles a significant amount of the commuter traffic. A master plan for Isla Grande is just about to be completed. A draft copy of the master plan will be available in late February-early March. However, the final master plan will probably not be released until much later.

PART 1. DEMAND FORECASTS

	Year:	Actual 1975	Forecast 1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	25.3	29.8	38.0	48.8	60.0
1a.	Air Taxi	7.5	8.8	11.3	13.3	14.9
2.	General Aviation	113.6	113.6	145.0	185.0	
2a.	Itinerant	51.1	51.1	65.2	83.2	
2b.	Local	62.5	62.5	79.8	101.8	
3.	Military	8.5	8.5	8.5	8.5	
4.	Total Aircraft Operations	147.4	151.9	191.5	242.3	
5.	Total FAA 1974 Forecasts		235.0	334.0		
	Aircraft Movements					
6.	Peak-Day	761				
7.	Peak-Hour	53				
	Based Aircraft					
8.	Fixed Wing	185				
8a.	Single Engine					
8b.	Jets	0				
8c.	Seaplane	4				
9.	Rotary Wing	27				
10.	Total Based Aircraft	213				

SIG

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	9	5300	Same		VFR	VASI	1980
2.	27	5300	Same		VFR	None	
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-4

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 0 Class C; 39 Class D; 61 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	No
14.	Hours of Service	14	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	No	20.	Primary Instrument Runway	None
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

	Year:	Actual 1975		Forecast		
Airside Capacities (Operations)						
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	248				

SIG

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	
1. Parking Apron Area (000 sq ft)	35.6	35.6	35.6	35.6	
2. Hangar Area (000 sq ft)					
3. T-Hangar Parking Positions	0	12	18	18	
4. Conventional Hangars	2	3	4	4	
5. Terminal Building Area (sq ft)	7000				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	
1. Automobile Parking Spaces	360	360	360	360	
2. Access Road Capacity (vehicles/hr)					
3. Rental Car Service	No	Yes	Yes	Yes	
4. Bus Access	No	Yes	Yes	Yes	
5. Rail, Subway, Other Access	Helicopter, Other				

SIG

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
4/			1976	336	1975

Improvement to sanitary sewer system.

SIG

AIR CARRIER AIRPORT DATA LIST

Airport Name San Juan International Code SJU

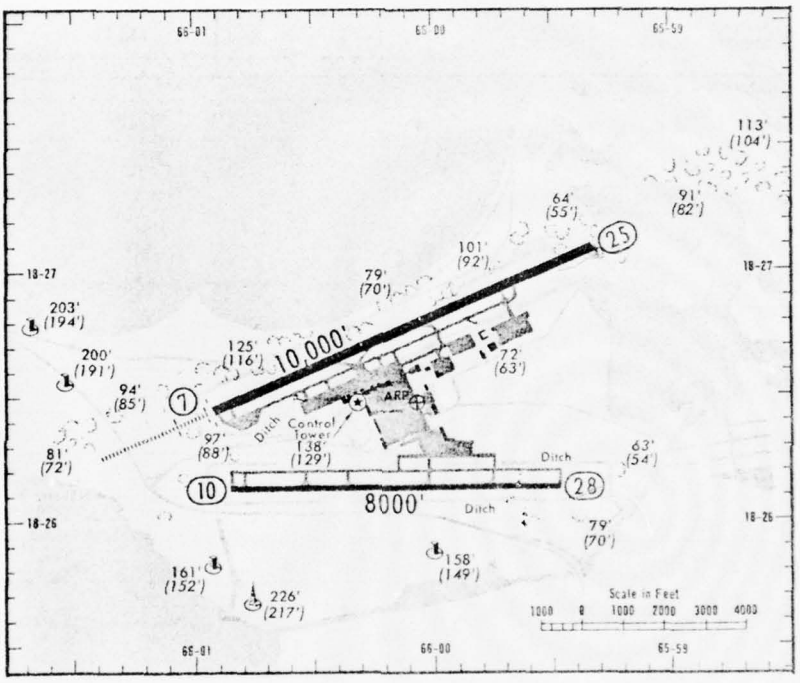
Hub Name San Juan Master Plan Status Underway (1976)

Approximate Distance and Direction to Hub CBD 3 Miles West

Approximate Number of Employees at Airport 5,000 as of 1976

Number of Air Carriers 12 Commuters 3

Terminal Type: ____ Linear X Pier ____ Satellite ____ Transporter



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Although there is no master plan for San Juan International itself, an effort is underway to produce a Puerto Rico Airport System Plan. A large portion of this study will naturally address the issues relating to San Juan International. A draft copy of this system plan is expected in March. The feeling expressed at the meeting with the airport authority was that San Juan will reach ultimate capacity by 1990. At that time the alternatives will be to either move some operations to a relief airport such as Ponce (62 miles away) or build a new airport. A number of sites for a new airport have been investigated.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1980	1985		
	Enplaned Passengers (000)					
1.	Air Carrier	2000	2500	3200		
2.	Commuter (Including Air Taxi)	500	700	850		
2a.	Air Taxi					
3.	Connecting	177	225	350		
4.	Originating	2323	2975	3700		
5.	Domestic	2100	2700	3450		
6.	International	400	500	600		
7.	Total Enplaned Passengers	2500	3200	4050		
8.	Total FAA 1974 Forecasts		3709	4789		
	Aircraft Operations (000)					
9.	Air Carrier	61				
10.	Commuter (Including Air Taxi)	95				
10a.	Air Taxi	5				
11.	General Aviation	25				
11a.	Itinerant					
11b.	Local					
12.	Military Mixed	1				
13.	Total Aircraft Operations	182				
14.	Total FAA 1974 Forecasts		327	465		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	3300				
16.	Aircraft	72				
	Cargo					
17.	Total Enplaned Cargo (000 Tons)					

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	7	10000			ILS
2.	25	10000			VFR
3.	10	8000			ILS
4.	28	8000			VFR
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 7 Class AA 8 Class A 14 Class B
44 Class C 22 Class D 5 Class E

	Actual	Forecast			
Year:	1975				
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	70				
17. Maximum Hourly Capacity (IFR)	30				
18. Minimum Hourly Capacity (IFR)	10				
19. Practical Annual Capacity (000)	500				

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	31				
1a. International Terminal	9				
2. Wide Body Parking Positions	10				
2a. International Terminal	2				
3. Gates (Passenger Exits)	17				
3a. International Terminal	6				
Ticket Counters					
4. Linear Feet	9980				
4a. International Terminal	3085				
5. Stations	95				
5a. International Terminal	24				
Baggage Claim					
6. Public Area (sq ft)	33296				
6a. International Terminal	17000				
7. Equipment Types	6-transi-thread belts				
8. Equipment Capacity (bags/min)	360				
8a. International Terminal					
Security Inspection					
9. Parallel Passenger Servers	0				
9a. International Terminal	1				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	0				
11. X-ray (Carry On Baggage)	2				
11a. International Terminal	1				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1975	1980			
	Terminal Area (000 sq ft)					
12.	Total Area	704				
12a.	International Terminal	67				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	3300				
14.	Annual (000)	5400				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	106	207			
16.	Apron Area (000 sq ft)	1586	1586			
17.	Aircraft Parking Positions	10	15			
18.	Truck Loading Docks	65	115			
19.	Cargo Loading Type ___ Manual	X Semi-Automatic		___ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	0				
21.	Apron Area (000 sq ft)	0				
22.	Hangar Area (sq ft)	0				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot	2 hours short-term, 8 hours long term.				
26.	Number of Checked Bags per Passenger	2.33				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual 1975	1980	Forecast		
	Automobile Parking Spaces					
1.	Total Public	1165	2850			
1a.	Short Term	409	1050			
2.	Rental Car	100	200			
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	1200	2100			
	Curb Frontage					
4.	Lineal Feet	500	2250			
4a.	Enplaned	250	1000			
4b.	Deplaned	250	1250			
5.	International Terminal Lineal Feet	440	1400			
5a.	Enplaned	220	600			
5b.	Deplaned	220	800			
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	65 %				
9.	Taxi	25 %				
10.	Bus (Includes Hotel Shuttles, Limos)	10 %				
11.	Subway, Rail, Other	0 %				
	Percentage of People Entering Airport					
12.	Passengers	31 %				
13.	Visitors, Well Wishers, Greeters	59 %				
14.	Employees	10 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	0.81				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
			1975-76	564	1975
Emergency power plan.					
			1975-76	130	1975
Remove telephone lines and electric poles for ILS installation.					
3/15/2		101,000 sq ft	1976-77	2,385	1975
Build a second cargo building.					
Part 4			1976-77	347	1975
Auto parking-rentals, limos, alterations to employee parking lot and first phase peripheral road.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Boeing Field/King County International Code BFI

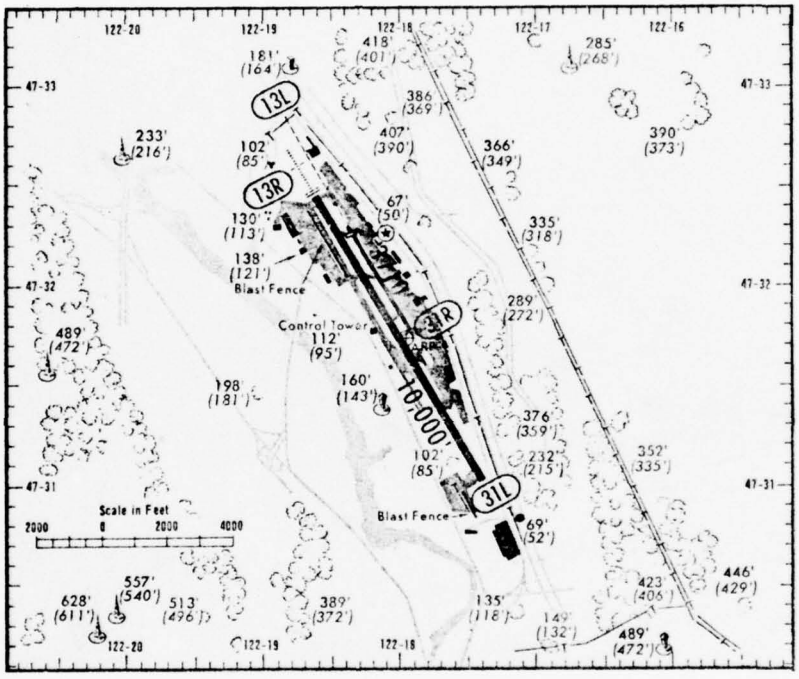
Hub Name Seattle Master Plan Status 1971

Approximate Distance and Direction to Hub CBD 4 miles North

Approximate Distance and Direction to Hub Air Carrier Airport 4 miles South

Name of That Airport Seattle-Tacoma International Number of Commuters 0

Approximate Number of Employees at Airport 1000 as of 1975



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Commonly called Boeing Field, BFI is perhaps Seattle's primary general aviation airport, and the former air carrier airport. It serves as the test and delivery center for the Boeing 747s. The Boeing Corporation leases most of the Northwest side of the airport. There are no planned airside developments here other than extending a parallel taxiway to the full length of 13R/31L. The next

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project at the airport will be a 40,000 sq. ft terminal addition to handle large bodied aircraft for charter uses. Estimated to cost about $2.5 million dollars, this will probably be completed in the next two years. Other minor landside and terminal projects are anticipated, but many of these are hampered until long term lease agreements with various tenants come up for renegotiation.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1970	1975	1980	1985	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	18.5	29.0	39.0	51.0	
1a.	Air Taxi					
2.	General Aviation	333.7	369.0	385.0	436.0	
2a.	Itinerant	176.5	195.2	203.6	230.6	
2b.	Local	157.2	173.8	181.4	205.4	
3.	Military	2.8	3.0	3.0	3.0	
4.	Total Aircraft Operations	355.0	401.0	427.0	490.0	
5.	Total FAA 1974 Forecasts			400	450	
	Aircraft Movements					
6.	Peak-Day	1897	2000	2100	2300	
7.	Peak-Hour	266				
	Based Aircraft					
8.	Fixed Wing	347				
8a.	Single Engine	300				
8b.	Jets	12				
8c.	Seaplane	3				
9.	Rotary Wing	12				
10.	Total Based Aircraft	359	352	415	600	

BFI

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	13R	10000	Same	-	ILS	Same	-
2.	31L	10000	Same	-	LOC(BC)	Same	-
3.	13L	3460	Same	-	VFR	Same	-
4.	31R	3710	Same	-	VFR	Same	-
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-747

11a. Class of This Aircraft: (AA) A B C D E

12. Fleet Mix (Percentage): ____ Class AA ____ Class A ____ Class B ____ Class C ____ Class D ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	24 Hrs	19.	Automatic Terminal Information Service (ATIS)	Yes
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	13R
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

		Actual		Forecast		
	Year:	1970	1975	1980	1985	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	410	410	410	410	

BFI

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1970	1975	1980	1985	
1. Parking Apron Area (000 sq ft)	16000	16000			
2. Hangar Area (000 sq ft)	80	80	80	80	
3. T-Hangar Parking Positions	120	120			
4. Conventional Hangars	25	25			
5. Terminal Building Area (sq ft)	24000	24000	64000	64000	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1970	1975	1980	1985	
1. Automobile Parking Spaces	300	400	800	1100	
2. Access Road Capacity (vehicles/hr)	1300	1300	1300	1300	
3. Rental Car Service	Yes	Yes	Yes	Yes	
4. Bus Access	Yes	Yes	Yes	Yes	
5. Rail, Subway, Other Access	No	No	No	No	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

Taxiway extensions, new international charter flight building are only major expansions anticipated at present.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Snohomish County (Paine Field) Code PAE

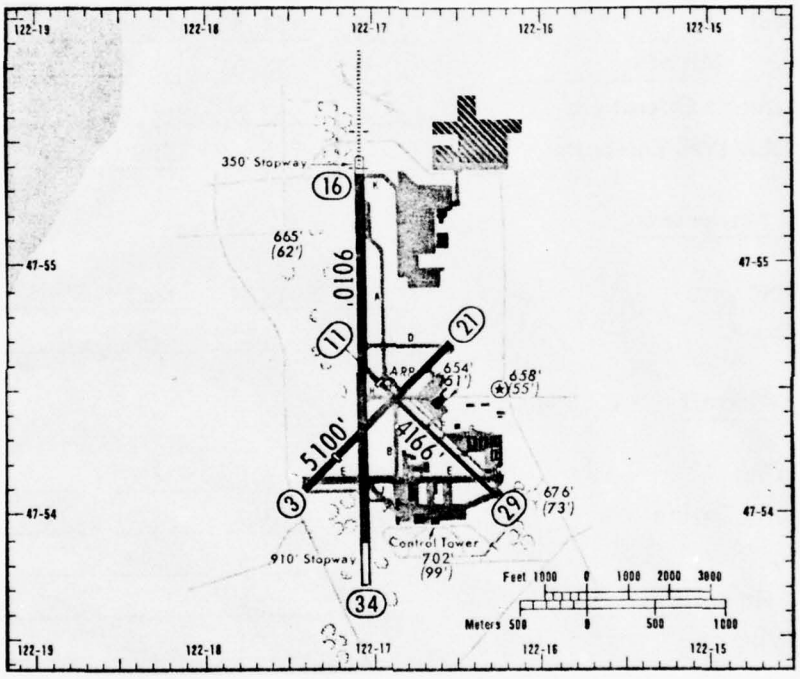
Hub Name Seattle Master Plan Status Underway (1977)

Approximate Distance and Direction to Hub CBD 25 miles South

Approximate Distance and Direction to Hub Air Carrier Airport 28 miles South

Name of That Airport Seattle-Tacoma International Number of Commuters 0

Approximate Number of Employees at Airport 1150 as of 1975



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Paine Field is located in Snohomish County. The area is experiencing a rapid growth rate which is expected to continue over the next fifteen years. The Boeing Corporation builds 747s at a facility adjacent to the airport; Air National Guard, Army and Navy have used or continue to use the airport facilities. Paine Field is an important part of the Puget Sound system of airports. A new regional Master Planning effort is expected to be completed in 1976 or early 1977, and it will include recommendations on surrounding land use planning as well as airport planning. Data included herein is from preliminary sections of that plan.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.9	0.6	0.6	0.6	0.6
1a.	Air Taxi	0.5				
2.	General Aviation	146.7	236.7	297.9		426.1
2a.	Itinerant	61.4	85.2	106.9		153.8
2b.	Local	85.3	151.5	191.0		272.3
3.	Military Mixed	10.0	16.0	16.0		16.0
4.	Total Aircraft Operations	157.6	253.3	314.5		442.7
5.	Total FAA 1974 Forecasts		206	251		
	Aircraft Movements					
6.	Peak-Day	911	1315	1647		2329
7.	Peak-Hour	109	157	181		301
	Based Aircraft					
8.	Fixed Wing	242	361	450		642
8a.	Single Engine	204	304	377		539
8b.	Jets	4	9	14		21
8c.	Seaplane	4	6	8		12
9.	Rotary Wing	29	31	33		36
10.	Total Based Aircraft	271	392	483		678

PAE

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	16	9010	*		ILS		
2.	34	9010	*		VOR		
3.	11	4166	Same	-	VFR		
4.	29	4166	Same	-	VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway B-747

11a. Class of This Aircraft: (AA) A B C D E

12. Fleet Mix (Percentage) ____ Class AA ____ Class A ____ Class B ____ Class C ____ Class D ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	7am-9pm	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	16
16.	Vortac Station	Yes	21.	Joint Use	
17.	Weather Station	No			

		Actual	Forecast			
	Year:	1975	1980	1985	1990	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	242	242	242	242	

*Upcoming master plan may recommend an extension or a new parallel runway.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	_____
1. Parking Apron Area (000 sq ft)	460	730	850	1160	_____
2. Hangar Area (000 sq ft)	390	525	690	1000	_____
3. T-Hangar Parking Positions	98	126	174	212	_____
4. Conventional Hangars	_____	_____	_____	_____	_____
5. Terminal Building Area (sq ft)	5200	9000	20000	80000	_____

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	_____
1. Automobile Parking Spaces	300	550	1000	2500	_____
2. Access Road Capacity (vehicles/hr)	_____	_____	_____	_____	_____
3. Rental Car Service	On call	Yes	Yes	Yes	_____
4. Bus Access	No	Yes	Yes	Yes	_____
5. Rail, Subway, Other Access	No	No	No	_____	_____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

Planning cost information not yet available.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Renton Municipal Code RNT

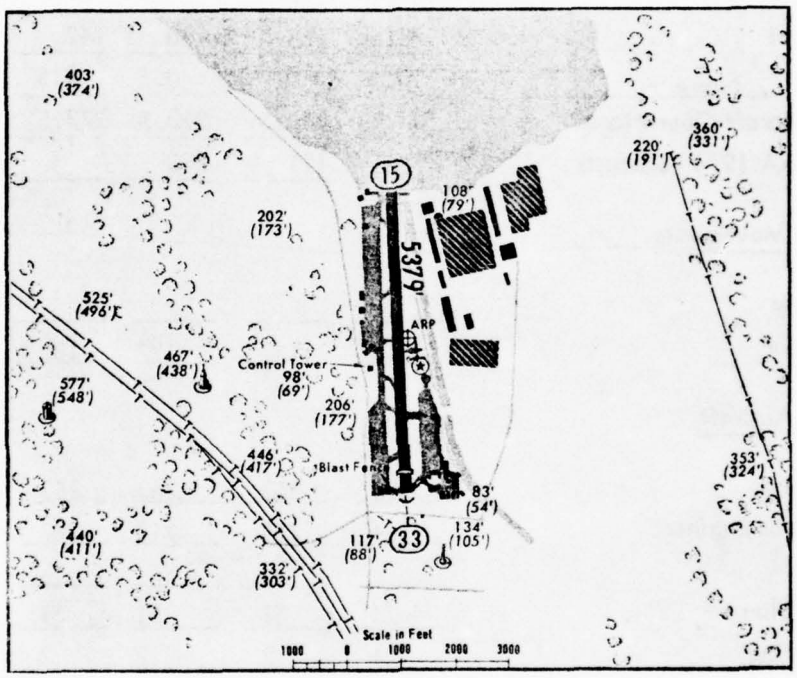
Hub Name Seattle Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 15 miles Northwest

Approximate Distance and Direction to Hub Air Carrier Airport 5 miles West

Name of That Airport Seattle-Tacoma International Number of Commuters 0

Approximate Number of Employees at Airport 400 - 500 as of 1975



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Renton Municipal Airport and the contiguous Will Rogers-Wiley Post Memorial Seaplane Base are general aviation facilities located in northern Renton on the south shore of Lake Washington. Boeing Aircraft manufacturing facilities are adjacent to the airport; Boeing leases about 60% of the available airport terminal/landside facilities. There is little room for expansion at the airport and the new 1975 master plan takes this into account and the forecasts are correspondingly constrained. The master plan was not completed at the time this data was taken and the costs of the increases in T-hangars, auto parking, and water lane markings are not available.

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PART 1. DEMAND FORECASTS

	Year:	Actual 1974	1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0	0	0	0
1a.	Air Taxi	0	0	0	0	0
2.	General Aviation	137.2	246	260	273	286
2a.	Itinerant	57.6	108	120	131	143
2b.	Local	79.6	138	140	142	143
3.	Military None	0.5	0.5	0.5	0.5	0.5
4.	Total Aircraft Operations	137.7	246.5	260.5	273.5	286.5
5.	Total FAA 1974 Forecasts		191	200		
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour	118	163	177	180	183
	Based Aircraft					
8.	Fixed Wing	186	263	263	263	263
8a.	Single Engine	164	223	215	207	199
8b.	Jets					
8c.	Seaplane	26	51	51	51	51
9.	Rotary Wing	1	2	2	2	2
10.	Total Based Aircraft	187	265	265	265	265

RNT

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	15	5379	Same	-	VFR	ILS	Uncertain
2.	33	5029	Same	-	VFR	Same	-
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-707

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): ____ Class AA ____ Class A ____ Class B ____ Class C ____ Class D ____ Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	8am-8pm	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	15
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	Yes			

Airside Capacities (Operations)

		Year: Actual 1974	1980	1985	1990	1995
22.	Maximum Hourly Capacity (VFR)*	125	125	125	125	125
23.	Maximum Hourly Capacity (IFR)*	15	15	15	15	15
24.	Practical Annual Capacity (000)*	175	175	175	175	175

*This does not include water lane capacity of 95 operations per hour (VFR) and 130,000 annual operations.

PART 3. TERMINAL FACILITIES AND CAPACITIES

Year:	Actual 1974	1980	1985	1990	1995
1. Parking Apron Area (000 sq ft)	387	469.8	469.8	469.8	469.8
2. Hangar Area (000 sq ft)	15	15	15	15	15
3. T-Hangar Parking Positions	53	133	133	133	133
4. Conventional Hangars	12	12	12	12	12
5. Terminal Building Area (sq ft)	0	0	0	0	0

PART 4. LANDSIDE FACILITIES AND CAPACITIES

Year:	Actual 1974	1980	1985	1990	1995
1. Automobile Parking Spaces	658	702	709	712	715
2. Access Road Capacity (vehicles/hr)	5400	5400	5400	5400	5400
3. Rental Car Service	Yes	Yes	Yes	Yes	Yes
4. Bus Access	Yes	Yes	Yes	Yes	Yes
5. Rail, Subway, Other Access	Waterlink				

RNT

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

T-hangar expansion cost not available; other expansion is uncertain.

RNT

AIR CARRIER AIRPORT DATA LIST

Airport Name Seattle-Tacoma International Code SEA

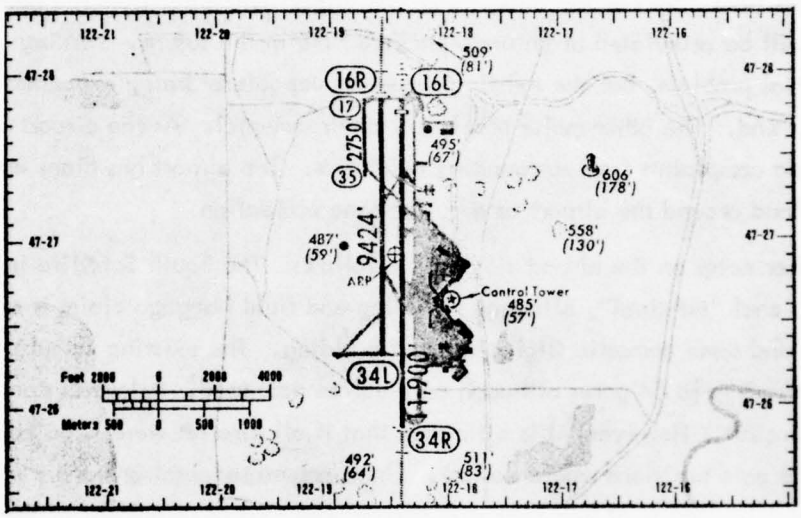
Hub Name Seattle Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 8 Miles North

Approximate Number of Employees at Airport 7000 as of 1975

Number of Air Carriers 12 Commuters 7

Terminal Type: ___ Linear X Pier X Satellite ___ Transporter



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The Sea-Tac International Airport terminal expansion program, begun in 1966, included major increases in airline passenger service space, an automated baggage handling system, expanded parking facilities, improved access, increased passenger lounge and concession space, as well as the addition of VIP and press facilities.

The terminal building is the result of dealing with site limitations and the restraints presented by the existing terminal location and its configuration. Two satellite terminals were constructed and connected to the main terminal by an underground rapid transit system. The North Satellite terminal handles domestic flights while the South Satellite terminal handles the international traffic.

Construction of the terminal was completed in 1973, and is designed to ultimately accommodate some 20 million passengers per year. The terminal complex provides aircraft gate positions for 65 aircraft; 37 gates in the main terminal building,

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and 28 gates, (total) in the two satellite terminals. Currently 35 of the 59 developed gate positions are in operation. Since forecasts indicate that the 20 million passenger mark will not be passed until beyond 1993, these facilities (airside and landside) are adequate for the 20 year planning period.

Following are some comments on the existing and planned facilities at Sea-Tac which are based upon discussions with airport planning staff. The main congestion point at the airport is at the access roadway from the south. In fact, during peak hours, many passengers from south of the airport pass the airport and enter from the north. This problem will be alleviated at an undetermined time in the future. Parking is another potential problem, but the existing garage is capable of being expanded with wings at either end. The other major problem is environmental. As the airport activity increases, so do complaints from surrounding neighbors. The airport has plans for purchasing more land around the airport as a buffer zone protection.

Other notes on the airport data are as follows: The South Satellite is used as the international "terminal", although ticketing and final baggage claim is at the main terminal and some domestic flights use that building. The existing complex is capable of expanding to 54 gates although only 35 are now used. All gates can handle wide bodied aircraft. However, it is estimated that if all aircraft were wide bodied, one third of the gate positions would be lost. There are no terminal or hangar provisions for general aviation at Sea Tac; it is anticipated that development of the west side of the airport will include GA facilities, but specific plans have not been formulated. Cargo facilities as well will occupy part of the west side. The present 17/35 GA runway will be extended as a parallel taxiway for 16R, but will still be used as a runway for light aircraft. Overall, the airport expects to spend about $175 million over the next 20 years for airport improvements and land acquisitions.

PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973	1978	1983	1993	
	Enplaned Passengers (000)					
1.	Air Carrier					
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	2370				
6.	International	235				
7.	Total Enplaned Passengers	2605	3450	4800	7550	
8.	Total FAA 1974 Forecasts		3141	4084		
	Aircraft Operations (000)					
9.	Air Carrier	115.4	123.0	144.0	178.0	
10.	Commuter (Including Air Taxi)	17.9	20.0	24.0	32.0	
10a.	Air Taxi					
11.	General Aviation	22.9	25.0	30.0	40.0	
11a.	Itinerant	22.9	25.0	30.0	40.0	
11b.	Local	0	0	0	0	
12.	Military	1.9	2.0	2.0	2.0	
13.	Total Aircraft Operations	158.1	170.0	200.0	252.0	
14.	Total FAA 1974 Forecasts		175.0	196.0		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)		3220	4330		
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	83.9	141.0	243.0	698.0	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	16R	9424	Same		ILS-II
2.	34L	9424	Same		ILS-I
3.	16L	11400	Same		ILS-I
4.	34R	11900	Same		ILS-I
5.	17	2750	**		VFR
6.	35	2750	**		VFR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) 12 Class AA 16 Class A 60 Class B 5 Class C 7 Class D+E Class E

		Actual	Forecast			
	Year:	1973	1978	1983	1988	1993
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	63	61	59	57	55
17.	Maximum Hourly Capacity (IFR)	54	52	50	48	46
18.	Minimum Hourly Capacity (IFR)					
19.	Practical Annual Capacity (000)	331	318	305	292	278

**Items 5 and 6. Runway 17/35 to be converted to taxiway and extended to length of 16R/34L, but it will still be used by light aircraft.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1973	1978	1983	1988	1993
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	35	35	38	50	66
1a. International Terminal	15	15	15	15	15
2. Wide Body Parking Positions	24	24	25	33	44
2a. International Terminal	10	10	10	10	10
3. Gates (Passenger Exits)	35	35	38	50	66
3a. International Terminal	15	15	15	15	15
Ticket Counters					
4. Linear Feet	930	930	930		
4a. International Terminal	0	0	0		
5. Stations	72	106	131	160	180
5a. International Terminal					
Baggage Claim					
6. Public Area (sq ft)	60000	60000	60000	60000	60000
6a. International Terminal	0	0	0	0	0
7. Equipment Types	4 Conveyors, 12 Carousels				
8. Equipment Capacity (bags/min)	960	960			
8a. International Terminal	0	0			
Security Inspection					
9. Parallel Passenger Servers	6	6	6	6	6
9a. International Terminal	0	0	0	0	0
10. Manual (Carry On Baggage)	0	0	0	0	0
10a. International Terminal	0	0	0	0	0
11. X-ray (Carry On Baggage)	6	6	6	6	6
11a. International Terminal	0	0	0	0	0

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1973	1978	1983	1988	1993
	Terminal Area (000 sq ft)					
12.	Total Area	1374.5	1374.5	1374.5	1374.5	
12a.	International Terminal*	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	5498				
14.	Annual (000)	1375				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	177	177	177		
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions	8	8	8		
18.	Truck Loading Docks					
19.	Cargo Loading Type	All Manual		Semi-Automatic		Fully Automatic
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	No separate facilities through				
21.	Apron Area (000 sq ft)	about 1980-1985.				
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

*South Satellite is used by domestic and international passengers.

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1973	1978	1983	1993	Opt
	Automobile Parking Spaces					
1.	Total Public	4150	4150	6275	6275	8400
1a.	Short Term					
2.	Rental Car	600				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	6000	6000	6000		
	Curb Frontage					
4.	Lineal Feet	3180		2720	2600	3860
4a.	Enplaned	1850		1000	1300	1450
4b.	Deplaned	1330		1720	1300	2410
5.	International Terminal Lineal Feet	0		0	0	0
5a.	Enplaned	0		0	0	0
5b.	Deplaned	0		0	0	0
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	Yes
7.	Subway, Rail, Other	Heliport				

Passenger Modal Split

8.	Automobile (Includes Rental Car)	62 %
9.	Taxi	5 %
10.	Bus (Includes Hotel Shuttles, Limos)	32 %
11.	Subway, Rail, Other	1 %

Percentage of People Entering Airport

12.	Passengers	%
13.	Visitors, Well Wishers, Greeters	%
14.	Employees	%

Vehicle Count

15.	Number of Vehicles Per Passenger	1.5

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
Only major airside development planned is extension of 17/35 as a taxiway; costs, dates, not available.					
	Terminal Extension		1986-1995	31000	1975
Completion of terminal complex to its ultimate capacity of handling total of 20 million passengers.					
	Parking	2125 Spaces		11000	1975
Each new wing of auto parking to handle about 2125 more cars at cost of $11 million each wing. First to be completed 1981-1985 time frame, second in 1986 to 1995.					
Access roadway changes planned for south access, but details not available.					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Lakeland Municipal Code LAL

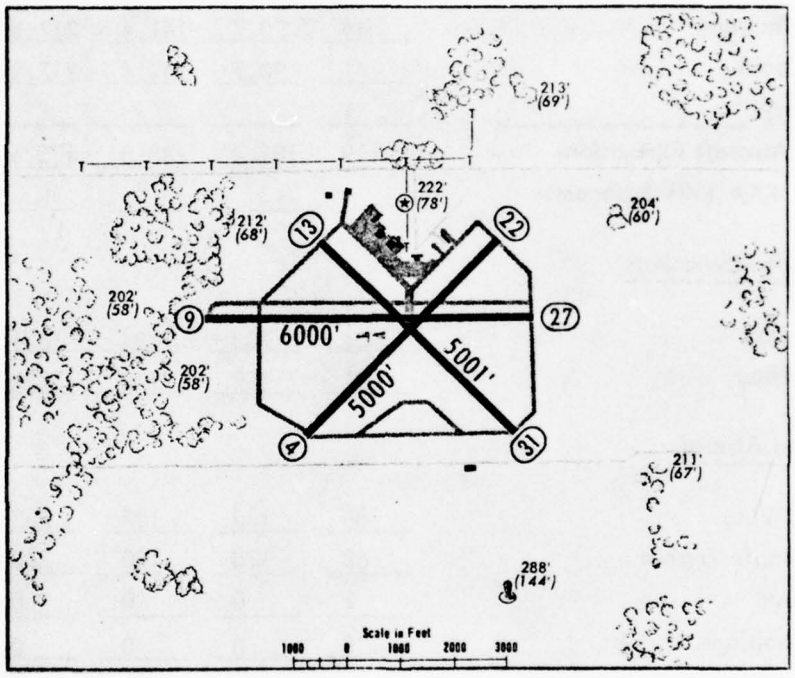
Hub Name Tampa/St. Petersburg Master Plan Status 1975

Approximate Distance and Direction to Hub CBD 27 miles West

Approximate Distance and Direction to Hub Air Carrier Airport 35 miles West

Name of That Airport Tampa International Number of Commuters 0

Approximate Number of Employees at Airport 600 as of 1976



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	3				
1a.	Air Taxi	3				
2.	General Aviation	115	181.4	282.8	435.6	
2a.	Itinerant	44	90.7	141.4	217.8	
2b.	Local	71	90.7	141.4	217.8	
3.	Military	1				
4.	Total Aircraft Operations	119	181.4	282.8	435.6	
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day	404	703	1084	1631	
7.	Peak-Hour	81	127	173	228	
	Based Aircraft					
8.	Fixed Wing	88	133	185	282	
8a.	Single Engine	68	123	170	260	
8b.	Jets	2	0	0	0	
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing	2	0	0	0	
10.	Total Based Aircraft	90	133	185	282	

LAL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	04	5000	Same		VOR		
2.	22	5000	Same		VFR		
3.	09	6000	7000	1990	VFR	ILS	1985
4.	27	6000	7000	1990	VFR		
5.	13	5000	Same		VFR		
6.	31	5000	Same		VFR		
7.	04R	None	3200	1980	VFR		
8.	27L	None	3200	1980	VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-9

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 5 Class B; 20 Class C; 40 Class D; 35 Class E

Miscellaneous Airside Data

13.	FAA Tower	No	18. Unicom	Yes
14.	Hours of Service	0700-2200	19. Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20. Primary Instrument Runway	09-27
16.	Vortac Station	Yes	21. Joint Use	No
17.	Weather Station	No		

		Actual		Forecast		
	Year:	1974	1980	1985	1990	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	98				
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	215	346			

LAL

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	
1. Parking Apron Area (000 sq ft)	175.5	253.8	408.6	919.8	
2. Hangar Area (000 sq ft)	141.8	141.8	141.8	141.8	
3. T-Hangar Parking Positions	25	35	55	85	
4. Conventional Hangars	3	3	3	4	
5. Terminal Building Area (sq ft)	5577	8377	8377	13377	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1974	1980	1985	1990	
1. Automobile Parking Spaces	36	244	337	561	
2. Access Road Capacity (vehicles/hr)	2 Lane				
3. Rental Car Service	No				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

LAL

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7,8/3	Runway	3200 ft	1980	339	1975
New parallel runway , 09R/27L					
3/1/2	Apron	78300 sq. ft	1980	82	1975
Apron for 24 itinerant A/C.					
3/1/3	Apron	154800 sq. ft	1985	167	1975
Apron for 41 itinerant A/C.					
3/1/4	Apron	511200 sq. ft	1990	545	1975
Apron for FBO (70 A/C).					
3/3/2	1 T-hangar	10 aircraft	1980	84	1975
3/3/3	2 T-hangar	20 aircraft	1985	159	1975
3/3/4	3 T-hangar	30 aircraft	1990	500	1975
3/4/4	1 hangar	14400 sq. ft.	1990	90	1975
2/3/6	ILS		1980	456	1975
2/3,4/3	Runway	1000 ft	1990	380	1975
Extend existing runway, 9/27					
3/5/2	Terminal	2800 sq. ft.	1980	46	1975
Addition to terminal building.					
3/5/4	Terminal	5000 sq. ft.	1990	151	1975
Addition to terminal.					

LAL

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
4/1/2	Auto Parking	208 spaces	1980	8	1975
4/1/3	Auto Parking	93 spaces	1985	11	1975
4/1/4	Auto Parking	224 spaces	1990	97	1975

LAL

GENERAL AVIATION AIRPORT DATA LIST

Airport Name St. Petersburg-Clearwater International Code PIE

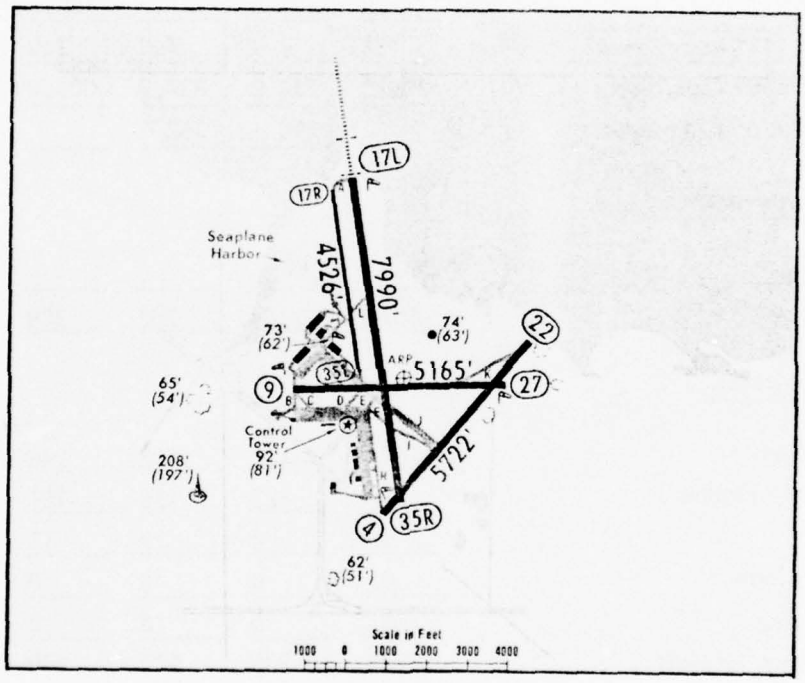
Hub Name Tampa/St. Petersburg Master Plan Status Completion Date: March 1977

Approximate Distance and Direction to Hub CBD 11 miles Northeast

Approximate Distance and Direction to Hub Air Carrier Airport 11 miles Northeast

Name of That Airport Tampa International Number of Commuters 0

Approximate Number of Employees at Airport 1194 as of 1976



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	1	1	1	1	
1a.	Air Taxi		1	1	1	
2.	General Aviation	201.2	247.2	330.9	373.0	
2a.	Itinerant	88.2	108.6	133.0	192.8	
2b.	Local	119.0	175.0	197.9	180.2	
3.	Military Coast Guard	1.4	7.0	7.0	7.0	
4.	Total Aircraft Operations	202.2	254.2	337.9	380.0	
5.	Total FAA 1974 Forecasts		290	382		
	Aircraft Movements					
6.	Peak-Day	1018				
7.	Peak-Hour	157	164	202	228	
	Based Aircraft					
8.	Fixed Wing	184	167	208	248	
8a.	Single Engine	151	123	158	181	
8b.	Jets	4	4	7	11	
8c.	Seaplane	0	0	0	0	
9.	Rotary Wing	5	5	5	5	
10.	Total Based Aircraft	193	235	255	270	

PIE

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	17	7990			ILS-1		
2.	35K	7990			LOC-VASI		
3.	04	5722			VFR		
4.	22	5722			VFR		
5.	09	5165			VFR		
6.	27	5165			VFR		
7.	17R	4526			VFR		
8.	35L	4526			VFR		
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: B-707

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 1 Class A; 1 Class B; 8 Class C; 90 Class D+E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	No
14.	Hours of Service	0700-2300	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	Yes	20.	Primary Instrument Runway	17L-35R
16.	Vortac Station	Yes	21.	Joint Use	Yes
17.	Weather Station	Yes			

		Actual		Forecast		
	Year:	1974	1980	1985	1990	
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	152	217	217	217	
23.	Maximum Hourly Capacity (IFR)	42	87	87	87	
24.	Practical Annual Capacity (000)	313	432	432	432	

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1980	1985	1990	
1. Parking Apron Area (000 sq ft)	900	469	564	737	
2. Hangar Area (000 sq ft)	445	445	445	445	
3. T-Hangar Parking Positions	10	10	19	39	
4. Conventional Hangars	8	8	8	8	
5. Terminal Building Area (sq ft)	46000	50000			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1980	1985	1990	
1. Automobile Parking Spaces	664	664	830	1018	
2. Access Road Capacity (vehicles/hr)	2 Lane (1 each way)				
3. Rental Car Service	Yes				
4. Bus Access	No				
5. Rail, Subway, Other Access	No				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/7,8/3	Runway	45 IFR CPS/Hr.	1980	1709	1975
New parallel runway 17L/35R					
3/3/3	T-hangars	9	1985	54	1975
9 T-hangars					
3/3/4	T-hangars	20	1990	120	1975
20 additional T-hangars					

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Albert Whitted Code SPG

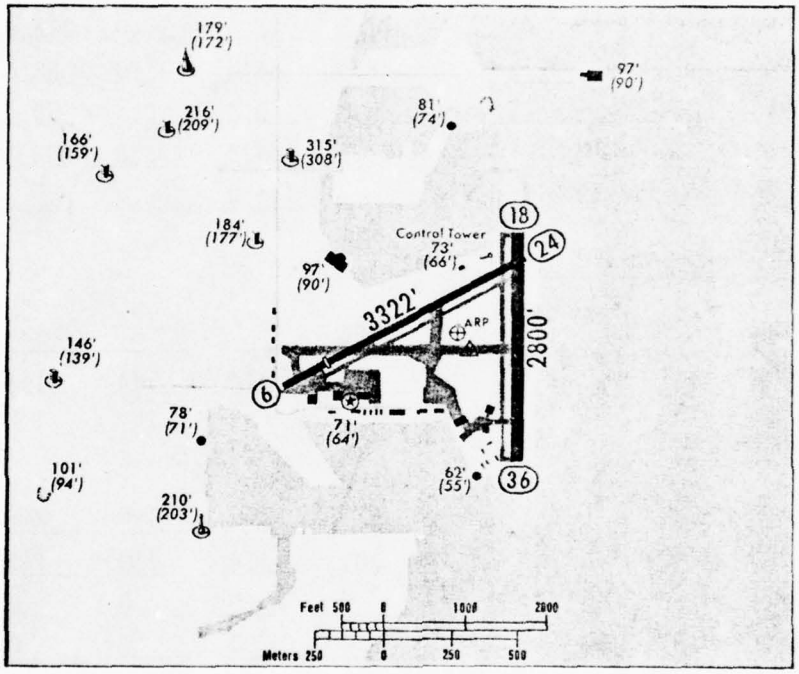
Hub Name Tampa/St. Petersburg Master Plan Status 1974

Approximate Distance and Direction to Hub CBD 0.5 miles West (St. Petersburg)

Approximate Distance and Direction to Hub Air Carrier Airport 20 miles Northeast

Name of That Airport Tampa Number of Commuters 0

Approximate Number of Employees at Airport _____ as of _____



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This is a small airport with small acreage and not capable of runway expansion. It is inside the CBD of St. Petersburg, and will be maintained as a non-jet general aviation utility airport by the city with improved landside facilities.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1975	1980	1985	1990	1995
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.5	2.2	2.9	3.7	4.4
1a.	Air Taxi					
2.	General Aviation	94.3	142.0	172.0	199.0	225.0
2a.	Itinerant	46.3	76.0	97.0	116.0	135.0
2b.	Local	48.0	66.0	75.0	83.0	90.0
3.	Military Coast Guard	7.0	0.6	0.6	0.6	0.6
4.	Total Aircraft Operations	101.8	144.8	175.5	203.3	230.0
5.	Total FAA 1974 Forecasts		146.0	208.0		
	Aircraft Movements					
6.	Peak-Day	480				
7.	Peak-Hour	70	114	114	114	
	Based Aircraft					
8.	Fixed Wing	131	169	190	210	230
8a.	Single Engine	101	134	150	165	180
8b.	Jets	0	0	0	0	0
8c.	Seaplane	0	0	0	0	0
9.	Rotary Wing	7	7	8	9	10
10.	Total Based Aircraft	138	176	198	219	240

SPG

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	06	3322	3600	1980	VFR		
2.	24	3322	3600	1980	VFR		
3.	18	2806	3100	1980	VOR		
4.	36	2806	3100	1980	VFR		
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: DC-3

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 7 Class C; 10 Class D; 83 Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	No
14.	Hours of Service	0600-2200	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	18
16.	Vortac Station	No	21.	Joint Use	Yes
17.	Weather Station	No			

Airside Capacities (Operations)

		Actual	Forecast			
	Year:	1975	1980	1985	1990	
22.	Maximum Hourly Capacity (VFR)	200	200	200	200	
23.	Maximum Hourly Capacity (IFR)	10	10	10	10	
24.	Practical Annual Capacity (000)	146	146	146	146	

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	_____	_____
1. Parking Apron Area (000 sq ft)	242.6	37.8	78.8	_____	_____
2. Hangar Area (000 sq ft)	45.0	_____	_____	_____	_____
3. T-Hangar Parking Positions	20	40	70	_____	_____
4. Conventional Hangars	3	4	5	_____	_____
5. Terminal Building Area (sq ft)	3150	3375	5000	_____	_____

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	_____	_____
1. Automobile Parking Spaces	111	152	242	_____	_____
2. Access Road Capacity (vehicles/hr)	2 Lanes	_____	_____	_____	_____
3. Rental Car Service	No	Yes	Yes	_____	_____
4. Bus Access	No	No	No	_____	_____
5. Rail, Subway, Other Access	No	No	No	_____	_____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/1,2,3,4/3	Runway	0	1980	312	1974
Overlay and extend runway. Add taxiway segments, for Phase 1.					
2/1,2,3,4/3	Runway	0	1985	686	1974
Extend runways Phase 2, plus seawall to provide land for extensions (free fill).					
3/5/2	Terminal	0	1980	100	1974
New terminal building for transient aircraft.					
3/3/2	T-hangars	20	1980	100	1974
2 new T-hangars.					
3/4/2	Hangar	2 hangars	1980	50	1974
Helicopter Hangar.					
3/1/3	Aprons	37 aircraft	1985	279	1974
New aprons for terminal and hangars.					
3/3/3	Hangars	30	1985	150	1974
3 new T-hangars.					
3/4/3	Hangars	2	1985	50	1974
Addition to helicopter hangar.					
4/1/2	Parking	42 cars	1980	36	1974

AIR CARRIER AIRPORT DATA LIST

Airport Name Tampa International Code TPA

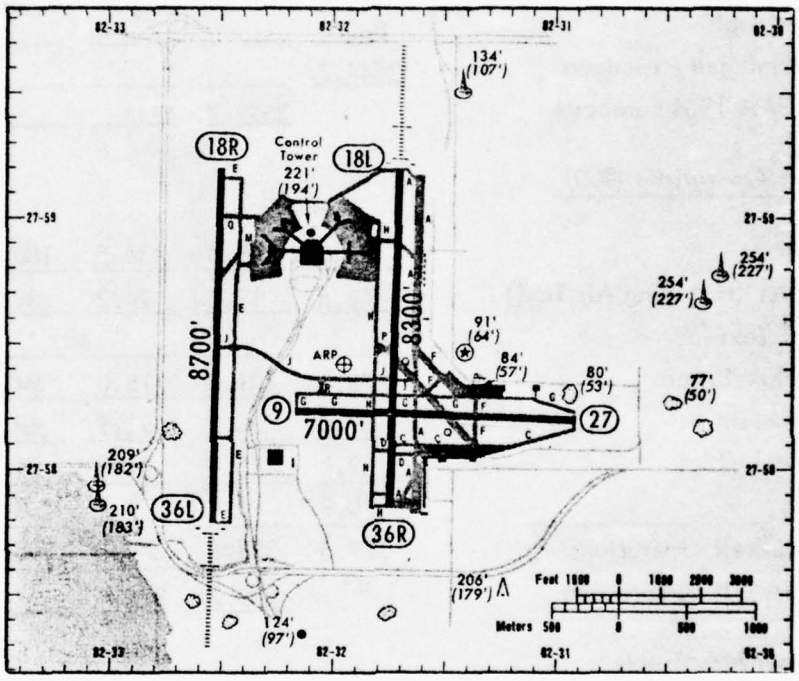
Hub Name Tampa/St. Petersburg Master Plan Status 1969

Approximate Distance and Direction to Hub CBD

Approximate Number of Employees at Airport 2000 as of 1975

Number of Air Carriers 9 Commuters 6

Terminal Type: ____ Linear ____ Pier X Satellite ____ Transporter



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This airport is the new primary air carrier airport capable of considerable expansion in future years.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1974	1980	1985	1990	
	Enplaned Passengers (000)					
1.	Air Carrier	2470.9	3978.6	5575.2	8025.6	
2.	Commuter (Including Air Taxi)	73.8				
2a.	Air Taxi					
3.	Connecting	254.5				
4.	Originating	2290.2				
5.	Domestic	2458.7				
6.	International	860				
7.	Total Enplaned Passengers	2544.7				
8.	Total FAA 1974 Forecasts		3322.7	4243		
	Aircraft Operations (000)					
9.	Air Carrier	92.0	108.6	136.5	180.9	
10.	Commuter (Including Air Taxi)	18.6	17.6	24.2	32.8	
10a.	Air Taxi					
11.	General Aviation	78.1	101.8	113.0	94.2	
11a.	Itinerant	69.0	86.7	91.9	69.8	
11b.	Local	9.1	15.1	21.1	24.4	
12.	Military	0.9	0.4	0.4	0.4	
13.	Total Aircraft Operations	189.6	228.4	274.1	308.3	
14.	Total FAA 1974 Forecasts		279.2	395.4		
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	2756	3880	5240	7130	
16.	Aircraft		35	44	59	
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	21.8	46	75	104	

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	36L	8700	10500	1990	ILS-I
2.	18R	8700	10500	1990	LOC
3.	36R	8300	10500		VFR
4.	18L	8300	10500		ILS-I
5.	9	7000	8200		VOR
6.	27	7000	8200		VFR
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) ____ Class AA+A 6 Class A 48 Class B
9 Class C 37 Class D/E ____ Class E

		Actual		Forecast		
	Year:	1975	1980	1985	1990	
	Airside Capacities (Operations)					
16.	Maximum Hourly Capacity (VFR)	90	90	90	90	
17.	Maximum Hourly Capacity (IFR)	86	86	86	86	
18.	Minimum Hourly Capacity (IFR)	42	42	42	42	
19.	Practical Annual Capacity (000)	342.6	342.6	342.6	342.6	

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1975	1980	1985	1990	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	40	39	49	65	
1a. International Terminal	-				
2. Wide Body Parking Positions	12				
2a. International Terminal	-				
3. Gates (Passenger Exits)	48				
3a. International Terminal	-				
Ticket Counters					
4. Linear Feet	450				
4a. International Terminal	-				
5. Stations	102				
5a. International Terminal	-				
Baggage Claim					
6. Public Area (sq ft)	195000				
6a. International Terminal					
7. Equipment Types	14 belt dispensers				
8. Equipment Capacity (bags/min)	600				
8a. International Terminal	-				
Security Inspection					
9. Parallel Passenger Servers	4				
9a. International Terminal	-				
10. Manual (Carry On Baggage)	0				
10a. International Terminal	-				
11. X-ray (Carry On Baggage)	5				
11a. International Terminal	-				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1975	1980	1985	1990	
	Terminal Area (000 sq ft)					
12.	Total Area	1803.4	939.0	1268.1	1725.5	
12a.	International Terminal	--				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour				7130	
14.	Annual (000)	12000				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	0				
16.	Apron Area (000 sq ft)	0				
17.	Aircraft Parking Positions	0				
18.	Truck Loading Docks	0				
19.	Cargo Loading Type	X Manual	___ Semi-Automatic	___ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	2000	7448	7546	6811	
21.	Apron Area (000 sq ft)	461.	485.	562.	615.	
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1974	1980	1985	1990	_____
	Automobile Parking Spaces					
1.	Total Public	2881	5820	7860	10695	_____
1a.	Short Term	0	_____	_____	_____	_____
2.	Rental Car	448	_____	_____	_____	_____
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2 lanes, in and out	_____	_____	_____	_____
	Curb Frontage					
4.	Lineal Feet	2400	_____	_____	_____	_____
4a.	Enplaned	1100	_____	_____	_____	_____
4b.	Deplaned	1300	_____	_____	_____	_____
5.	International Terminal Lineal Feet	--	_____	_____	_____	_____
5a.	Enplaned	--	_____	_____	_____	_____
5b.	Deplaned	--	_____	_____	_____	_____
	Mass Transit					
6.	Bus	No	_____	_____	_____	_____
7.	Subway, Rail, Other	No	_____	_____	/	_____

Passenger Modal Split

8.	Automobile (Includes Rental Car)	69 %
9.	Taxi	4 %
10.	Bus (Includes Hotel Shuttles, Limos)	12 %
11.	Subway, Rail, Other	0 %

Percentage of People Entering Airport

12.	Passengers	67 %
13.	Visitors, Well Wishers, Greeters	33 %
14.	Employees	- %

Vehicle Count

15. Number of Vehicles Per Passenger _____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/21/2	Apron GA	124000 sq ft	1980	285	1975
3/21/3	Apron GA	77000 sq ft	1985	89	1975
3/21/4	Apron GA	53000 sq ft	1990	62.5	1975
3/20/2	Terminal-GA	4684 sq ft	1980	93	1975

AIR CARRIER AIRPORT DATA LIST

Airport Name Baltimore-Washington International Code BAL

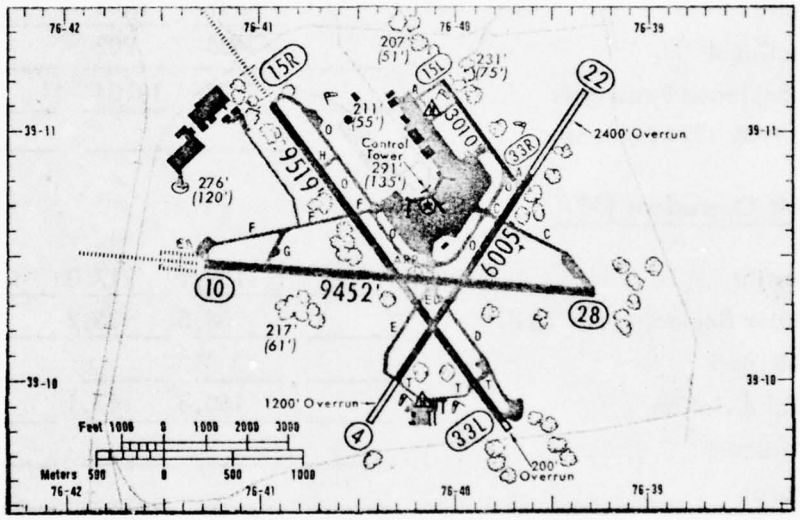
Hub Name Washington, DC Master Plan Status Underway (1976)

Approximate Distance and Direction to Hub CBD 25 Miles South (Washington)

Approximate Number of Employees at Airport _____ as of _____

Number of Air Carriers 9 Commuters 4

Terminal Type: x Linear x Pier ____ Satellite ____ Transporter



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Baltimore Washington is undergoing an extensive terminal expansion program. When completed, the program will increase the square footage by about 75 percent. The airside capacity is not expected to change significantly (from 21 to 25 gates). There is no separate international terminal; international flights use pier C of the existing terminal. Since the facilities are not all readily separable from domestic, the data lists for international terminal indicate zero.

A new Master Plan was being completed at the time of the data collection effort, but was not available for inspection. Data for the Baltimore airport is based upon (1) discussions with airport engineers, (2) terminal and airport layout plans, and (3) a four phase study of Landside Development Alternatives by Friendship Associates from 1972 through 1975.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973	1985	1995		
	Enplaned Passengers (000)					
1.	Air Carrier		4728	9391		
2.	Commuter (Including Air Taxi)		449	713		
2a.	Air Taxi		173	285		
3.	Connecting					
4.	Originating					
5.	Domestic		4689	9202		
6.	International		488	902		
7.	Total Enplaned Passengers		5177	10104		
8.	Total FAA 1974 Forecasts					
	Aircraft Operations (000)					
9.	Air Carrier		139.1	217.0		
10.	Commuter (Including Air Taxi)		34.5	35.2		
10a.	Air Taxi					
11.	General Aviation		160.3	167.1		
11a.	Itinerant					
11b.	Local					
12.	Military					
13.	Total Aircraft Operations		333.9	419.3		
14.	Total FAA 1974 Forecasts					
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	2271				
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)		176	370		

BAL

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	4	6000	Same	-	VFR
2.	22	6000	Same	-	VOR DME
3.	10	9450	Same	-	ILS-II
4.	28	9450	Same	-	ILS-I
5.	15R	9500	Same	-	ILS-I
6.	33L	9500	Same	-	LOC
7.	15L	3010	Same	-	-
8.	33R	3010	Same	-	-
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

	Actual	Forecast			
Year:	1973	1985	1995	_____	_____
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	_____	_____	_____	_____	_____
17. Maximum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
18. Minimum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
19. Practical Annual Capacity (000)	168*	168	168	_____	_____

* GA only.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1973	1975	1980	1985	
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	38	38	42	42	
1a. International Terminal	0	0	0	0	
2. Wide Body Parking Positions	6	6	6	6	
2a. International Terminal	0	0	0	0	
3. Gates (Passenger Exits)	21	21	25	25	
3a. International Terminal	0	0	0	0	
Ticket Counters					
4. Linear Feet	425	425	714	714	
4a. International Terminal	0	0	0	0	
5. Stations	52	52			
5a. International Terminal	0	0	0	0	
Baggage Claim					
6. Public Area (sq ft)	16250	16250	20060	20060	
6a. International Terminal	0	0	0	0	
7. Equipment Types	3 conveyor belts				
8. Equipment Capacity (bags/min)	180				
8a. International Terminal	0	0	0	0	
Security Inspection					
9. Parallel Passenger Servers	4	4	4	4	
9a. International Terminal	0	0	0	0	
10. Manual (Carry On Baggage)	0	0	0	0	
10a. International Terminal	0	0	0	0	
11. X-ray (Carry On Baggage)	4	4	4	4	
11a. International Terminal	0	0	0	0	

BAL

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	1973	1975	1980	1985	
	Terminal Area (000 sq ft)					
12.	Total Area	249.7	249.7	437.0	437.0	
12a.	International Terminal	0	0	0	0	
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour			7444	7444	
14.	Annual (000)					
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	150	150	150	150	
16.	Apron Area (000 sq ft)	175	175	175	175	
17.	Aircraft Parking Positions	5	5	5	5	
18.	Truck Loading Docks	100	100	100	100	
19.	Cargo Loading Type	X Manual	X Semi-Automatic		Fully Automatic	
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft) (2 terminals)	10000	10000	10000	10000	
21.	Apron Area (000 sq ft)	687.5	687.5	687.5	687.5	
22.	Hangar Area (sq ft)					
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger	1.1 Domestic; 2.0 International				

BAL

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	1973	1975	1980	1985	
	Automobile Parking Spaces					
1.	Total Public	3366	3366	6700	6700	
1a.	Short Term	1000	1000	1000	1000	
2.	Rental Car			1900	1900	
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	300	300			
4a.	Enplaned	150	150			
4b.	Deplaned	150	150			
5.	International Terminal Lineal Feet	0	0	0	0	
5a.	Enplaned	0	0	0	0	
5b.	Deplaned	0	0	0	0	
	Mass Transit					
6.	Bus	Yes	Yes	Yes	Yes	
7.	Subway, Rail, Other	No	No	No	Subway	

Passenger Modal Split

8.	Automobile (Includes Rental Car)	78.5 %
9.	Taxi	5.4 %
10.	Bus (Includes Hotel Shuttles, Limos)	14.1 %
11.	Subway, Rail, Other	2.0 %

Percentage of People Entering Airport

12.	Passengers	45 %
13.	Visitors, Well Wishers, Greeters	28 %
14.	Employees	27 %

Vehicle Count

15.	Number of Vehicles Per Passenger	

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
3/	Terminal Expansion		1980	38228	1975
Includes cost of parking and roadway noted below.					
4/1/3	Parking	3330 spaces	1980	1500	1975
4/4/3	Roadway Improvements		1980	3000	1975
Access roadway improvements including around terminal - does not include fees, contingency.					

BAL

AIR CARRIER AIRPORT DATA LIST

Airport Name Washington National Code DCA

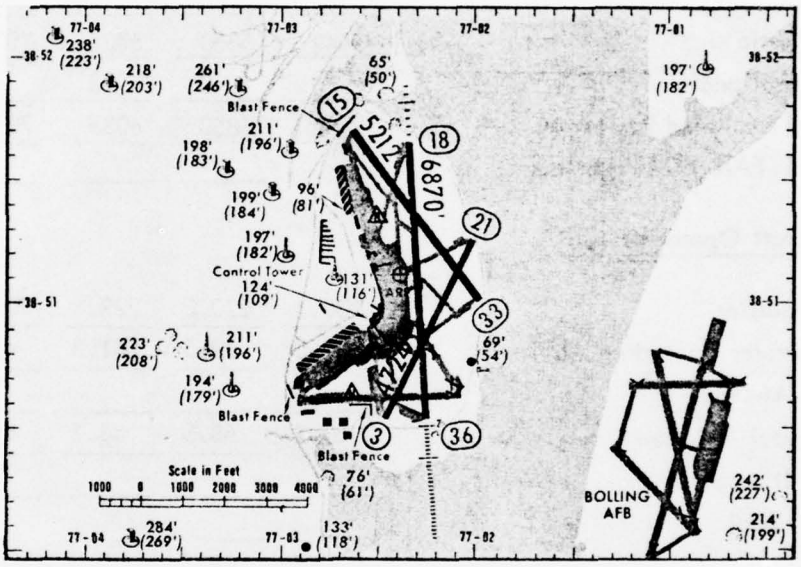
Hub Name Washington, DC Master Plan Status None

Approximate Distance and Direction to Hub CBD 3 Miles Northeast

Approximate Number of Employees at Airport 8680 as of February 1974

Number of Air Carriers 9 Commuters 1

Terminal Type: X Linear X Pier ____ Satellite ____ Transporter



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:*	1975	1976	1977	1980	1982
	Enplaned Passengers (000)					
1.	Air Carrier	5373	5575	5750	6758	7687
2.	Commuter (Including Air Taxi)	269	275	285	315	325
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	5642	5850	6035	7073	8012
6.	International	0	0	0	0	0
7.	Total Enplaned Passengers	5642	5850	6035	7073	8012
8.	Total FAA 1974 Forecasts **					
	Aircraft Operations (000)					
9.	Air Carrier	203.1	220.0	229.6	230.0	230.0
10.	Commuter (Including Air Taxi)	37.0	39.5	41.8	47.0	48.4
10a.	Air Taxi					
11.	General Aviation	69.2	68.5	68.2	63.0	61.6
11a.	Itinerant					
11b.	Local					
12.	Military	0.5	0.5	0.5	0.5	0.5
13.	Total Aircraft Operations	309.8	328.5	340.1	340.5	340.5
14.	Total FAA 1974 Forecasts**					
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	39.2	40.5	43.0	45.7	47.7

*Forecasts are for Fiscal years October through September.
**Since the airport is operated by the FAA, the airport forecasts are FAA forecasts.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	3	4724			VFR
2.	21	4724			VFR
3.	15	5212			VOR
4.	33	5212			ASR
5.	18	6870			VOR
6.	36	6870			ILS-II
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	_____	_____	_____	_____	_____
17. Maximum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
18. Minimum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
19. Practical Annual Capacity (000)	_____	_____	_____	_____	_____

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	42				
1a. International Terminal	0				
2. Wide Body Parking Positions					
2a. International Terminal	0				
3. Gates (Passenger Exits)	42				
3a. International Terminal	0				
Ticket Counters					
4. Linear Feet	349				
4a. International Terminal	0				
5. Stations					
5a. International Terminal	0				
Baggage Claim					
6. Public Area (sq ft)	17000				
6a. International Terminal	0				
7. Equipment Types	4 carousels, 6 conveyor belts				
8. Equipment Capacity (bags/min)	360				
8a. International Terminal	0				
Security Inspection					
9. Parallel Passenger Servers					
9a. International Terminal	0				
10. Manual (Carry On Baggage)					
10a. International Terminal	0				
11. X-ray (Carry On Baggage)					
11a. International Terminal	0				

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1976				
	Terminal Area (000 sq ft)					
12.	Total Area	474.3				
12a.	International Terminal	0				
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour					
14.	Annual (000)	8000				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	13.6				
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions					
18.	Truck Loading Docks					
19.	Cargo Loading Type	X Manual	___ Semi-Automatic	___ Fully Automatic		
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	25.5				
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)					

Miscellaneous Data

23.	Percentage of Passengers Who Use Curb Then Parking Lot	
24.	Percentage of Passengers Who Use Curb Only	
25.	Average Length of Stay of Car in Parking Lot	
26.	Number of Checked Bags per Passenger	

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1976				
	Automobile Parking Spaces					
1.	Total Public	3403				
1a.	Short Term	107				
2.	Rental Car					
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	2000				
	Curb Frontage					
4.	Lineal Feet	800				
4a.	Enplaned	-				
4b.	Deplaned	-				
5.	International Terminal Lineal Feet	0				
5a.	Enplaned	0				
5b.	Deplaned	0				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	Subway				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	74.7 %				
9.	Taxi	4.0 %				
10.	Bus (Includes Hotel Shuttles, Limos)	20.7 %				
11.	Subway, Rail, Other	1.6 %				
	Percentage of People Entering Airport					
12.	Passengers	41.8 %				
13.	Visitors, Well Wishers, Greeters	17.0 %				
14.	Employees	41.2 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

Access roadway and parking modifications are underway. Subway link to downtown is nearly completed. No other major development is planned at this time.

AIR CARRIER AIRPORT DATA LIST

Airport Name Dulles International Code IAD

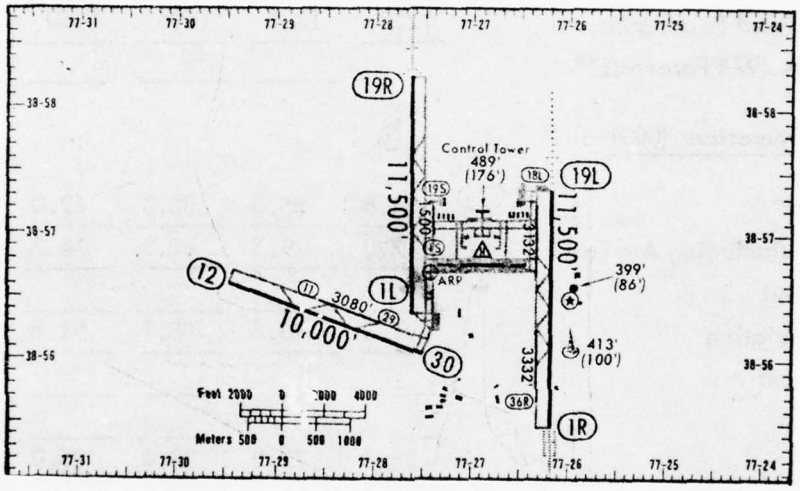
Hub Name Washington, DC Master Plan Status Underway

Approximate Distance and Direction to Hub CBD 26 Miles East

Approximate Number of Employees at Airport 3258 as of February 1975

Number of Air Carriers 15 Commuters

Terminal Type: ____ Linear ____ Pier ____ Satellite X Transporter



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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:*	1975	1976	1977	1980	1982
	Enplaned Passengers (000)					
1.	Air Carrier					
2.	Commuter (Including Air Taxi)					
2a.	Air Taxi					
3.	Connecting					
4.	Originating					
5.	Domestic	1006	1105	1159	1369	1564
6.	International	246	247	247	291	321
7.	Total Enplaned Passengers	1252	1352	1406	1660	1885
8.	Total FAA 1974 Forecasts**					
	Aircraft Operations (000)					
9.	Air Carrier	54.5	55.5	58.3	62.0	61.0
10.	Commuter (Including Air Taxi)	7.0	9.5	11.3	14.2	15.1
10a.	Air Taxi					
11.	General Aviation	91.8	90.5	88.7	91.8	94.9
11a.	Itinerant					
11b.	Local					
12.	Military	26.6	27.0	27.0	25.0	25.0
13.	Total Aircraft Operations	179.9	182.5	185.3	193.0	193.0
14.	Total FAA 1974 Forecasts**					
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)					
16.	Aircraft					
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	22.2	23.8	25.9	28.8	28.8

*Fiscal years from October through September.
**Airport is operated by FAA, thus airport forecasts are FAA forecasts.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

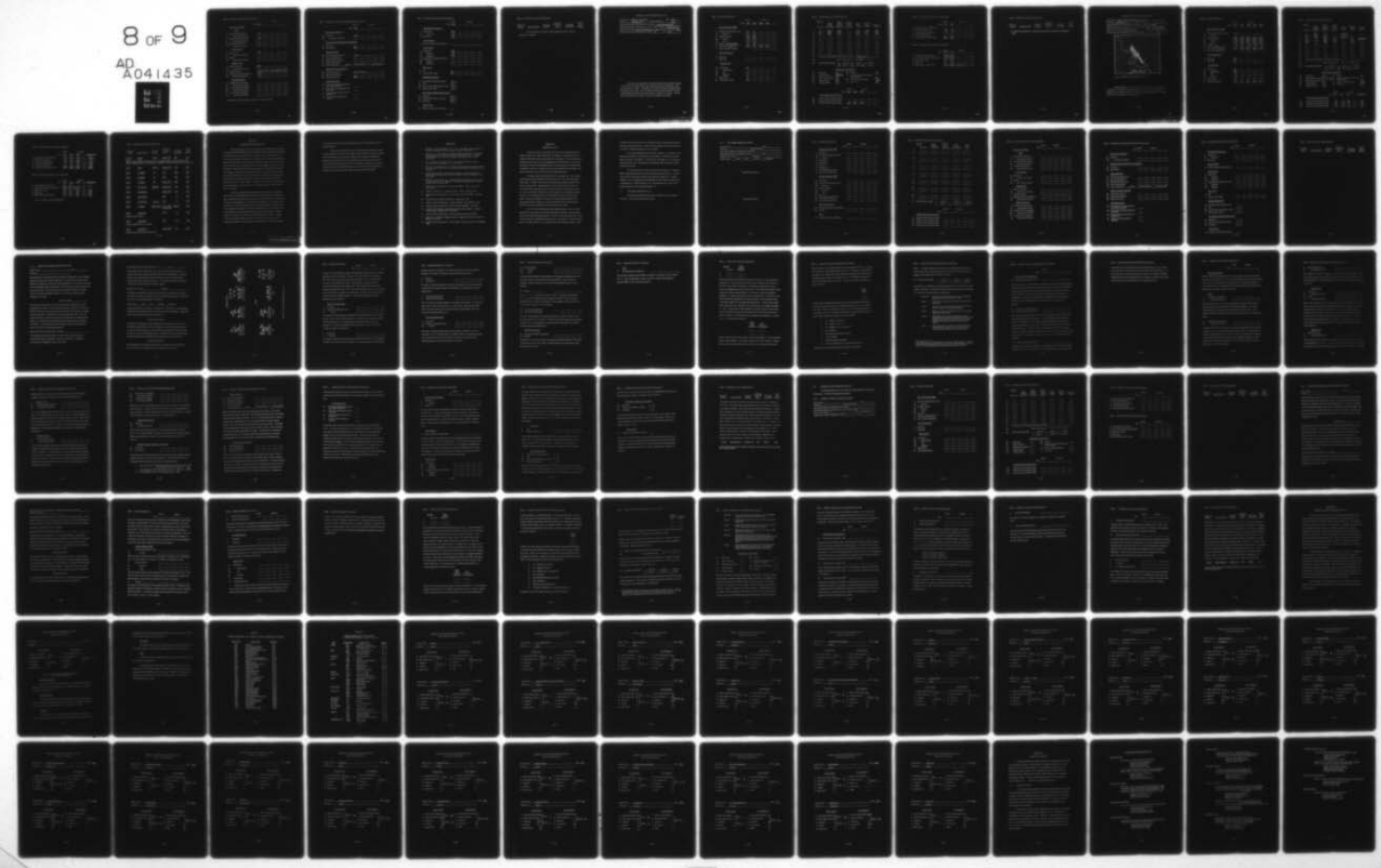
	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.	1R	11500			ILS-IIIA
2.	19L	11500			ILS-I
3.	1S	1500			VFR
4.	19S	1500			VFR
5.	1L	11500			LOC
6.	19R	11500			ILS-I
7.	11	3080			VFR
8.	29	3080			VFR
9.	12	10000			VOR
10.	30	10000			ASR
11.	18L	3132			VFR
12.	36R	3332			VFR
13.					
14.					

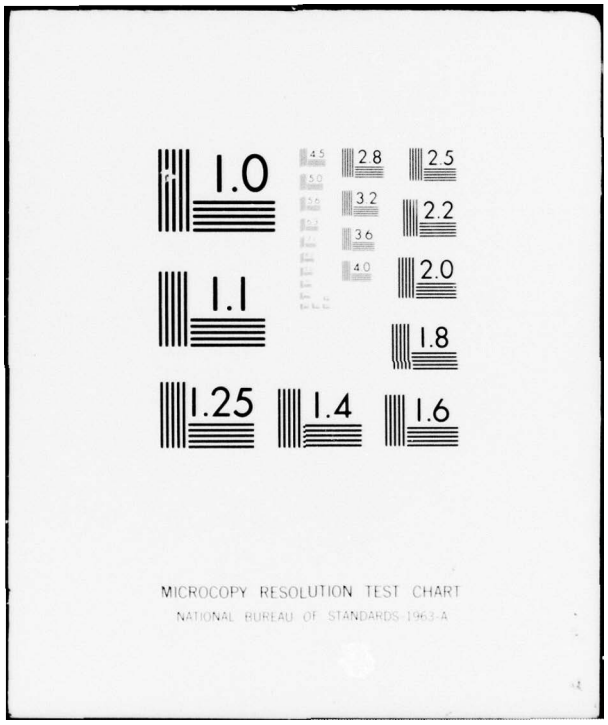
15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	_____	_____	_____	_____	_____
17. Maximum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
18. Minimum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
19. Practical Annual Capacity (000)	_____	_____	_____	_____	_____

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA
UNCLASSIFIED FAA-AVP-77-26 NL

8 OF 9
AD A041435




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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1976				
Passenger Terminal(s) *					
Gates					
1. Aircraft Parking Positions	40				
1a. International Terminal	-				
2. Wide Body Parking Positions	30				
2a. International Terminal	-				
3. Gates (Passenger Exits)	24				
3a. International Terminal	-				
Ticket Counters					
4. Linear Feet	288				
4a. International Terminal	-				
5. Stations					
5a. International Terminal					
Baggage Claim					
6. Public Area (sq ft)	24000				
6a. International Terminal	-				
7. Equipment Types	6 conveyor belts (including 2 international)				
8. Equipment Capacity (bags/min)	240				
8a. International Terminal	180				
Security Inspection					
9. Parallel Passenger Servers					
9a. International Terminal	-				
10. Manual (Carry On Baggage)					
10a. International Terminal	-				
11. X-ray (Carry On Baggage)					
11a. International Terminal	-				

*Note international and domestic operate out of the same terminal.

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual	Forecast			
	Year:	1976				
	Terminal Area (000 sq ft)					
12.	Total Area	366.6				
12a.	International Terminal					
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour					
14.	Annual (000)	3800				
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	25.5				
16.	Apron Area (000 sq ft)					
17.	Aircraft Parking Positions					
18.	Truck Loading Docks					
19.	Cargo Loading Type ____ Manual ____ Semi-Automatic ____ Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	Included in hangar				
21.	Apron Area (000 sq ft)					
22.	Hangar Area (sq ft)	89115				
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot					
24.	Percentage of Passengers Who Use Curb Only					
25.	Average Length of Stay of Car in Parking Lot					
26.	Number of Checked Bags per Passenger					

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual	Forecast			
	Year:	1976				
	Automobile Parking Spaces					
1.	Total Public	3458				
1a.	Short Term	115				
2.	Rental Car	250				
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)					
	Curb Frontage					
4.	Lineal Feet	1500				
4a.	Enplaned	750				
4b.	Deplaned	750				
5.	International Terminal Lineal Feet	-				
5a.	Enplaned	-				
5b.	Deplaned	-				
	Mass Transit					
6.	Bus	Yes				
7.	Subway, Rail, Other	No				
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	78.5 %				
9.	Taxi	5.4 %				
10.	Bus (Includes Hotel Shuttles, Limos)	14.1 %				
11.	Subway, Rail, Other	2.0 %				
	Percentage of People Entering Airport					
12.	Passengers	44.7 %				
13.	Visitors, Well Wishers, Greeters	31.1 %				
14.	Employees	24.2 %				
	Vehicle Count					
15.	Number of Vehicles Per Passenger					

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

Jet ramp expansion anticipated. Other development to wait until new master plan is completed.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Glenn L. Martin State Code MTN
Hub Name Washington, DC Master Plan Status None
Approximate Distance and Direction to Hub CBD 8 Miles West (Baltimore)
Approximate Distance and Direction to Hub Air Carrier Airport 25 Miles Southwest
Name of That Airport Baltimore-Washington Int'l (BAL) Number of Commuters None
Approximate Number of Employees at Airport 50 as of 1975

This airport was purchased by the state of Maryland from the Martin Company in July 1975 for 9.5 million dollars; the neighboring community had feared it would cease operating as an airport. The airport has facilities for handling seaplanes though few seaplanes use it today. Since the airport was only recently acquired by the state, a master planning study has not yet been made but is expected to start soon. The first priority according to the manager is to get jet fuel supplies to the airport.

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PART 1. DEMAND FORECASTS

		Actual		Forecast		
	Year:	1974	1975	1985	1995	
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0	0			
1a.	Air Taxi	0	0			
2.	General Aviation	19.8	56.6			
2a.	Itinerant	8.7	25.5			
2b.	Local	11.1	31.1			
3.	Military National Guard	2.2	6.3			
4.	Total Aircraft Operations	22.0	62.9	200.7	232.7	
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day					
7.	Peak-Hour					
	Based Aircraft					
8.	Fixed Wing	40				
8a.	Single Engine					
8b.	Jets	6				
8c.	Seaplane	0				
9.	Rotary Wing	5				
10.	Total Based Aircraft	45				

MTN

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways

	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	14	8100	Same	-	VFR	LOC	1976
2.	32	8100	Same	-	VFR	ILS	1976
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway: BAC III C-141

11a. Class of This Aircraft: AA (A) B C D E

12. Fleet Mix (Percentage): 0 Class AA; 0 Class A; 0 Class B; 10 Class C; 90 Class D & E; Class E

Miscellaneous Airside Data

13.	FAA Tower	Yes	18.	Unicom	Yes
14.	Hours of Service	0700-2300	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	14/32
16.	Vortac Station	Yes	21.	Joint Use	Yes
17.	Weather Station	Yes			

		Actual		Forecast		
	Year:	1973	1985	1995		
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)					
23.	Maximum Hourly Capacity (IFR)					
24.	Practical Annual Capacity (000)	178	253.3	253.3		

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1975			
1. Parking Apron Area (000 sq ft)					
2. Hangar Area (000 sq ft)	168	168			
3. T-Hangar Parking Positions	0	0			
4. Conventional Hangars	7	7			
5. Terminal Building Area (sq ft)	13862	13862			

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	1974	1975			
1. Automobile Parking Spaces	1500 (Estimate)				
2. Access Road Capacity (vehicles/hr)	4 lanes 30 mph				
3. Rental Car Service	Yes	Yes			
4. Bus Access	Yes	Yes			
5. Rail, Subway, Other Access	Rail, Helicopter, Waterlink				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

No improvements planned yet. Master planning study to be underway and completed in 1977.

GENERAL AVIATION AIRPORT DATA LIST

Airport Name Harry P. Davis Field(Manassas Municipal) Code W10

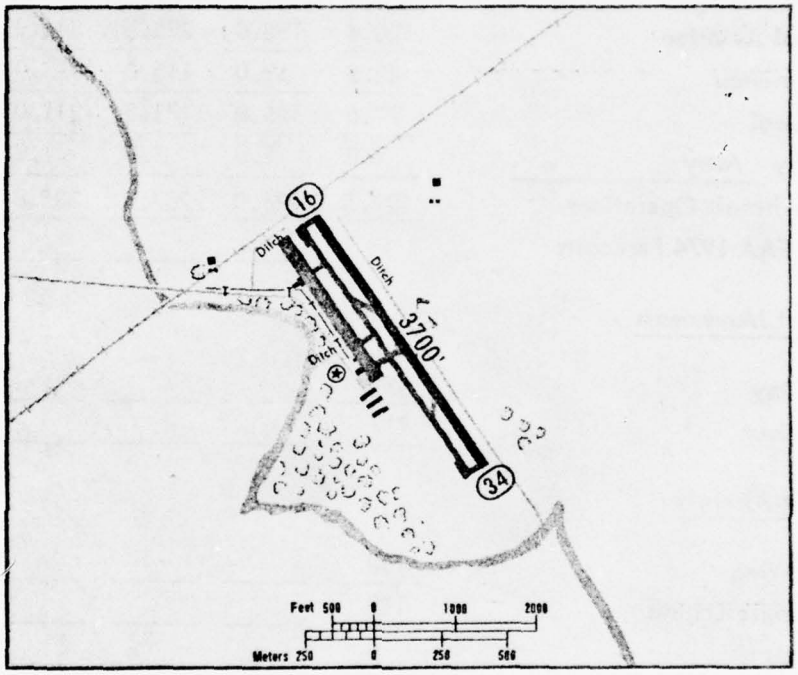
Hub Name Washington, DC Master Plan Status 1973

Approximate Distance and Direction to Hub CBD 35 Miles Northeast

Approximate Distance and Direction to Hub Air Carrier Airport 20 Miles North

Name of That Airport Dulles International Number of Commuters 1

Approximate Number of Employees at Airport 85-90 as of 1976



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Manassas Municipal is just completing the first stage of a three stage expansion program. The airport is surrounded by light industrial and agricultural land, so expansion is not considered a problem. There is no tower here at present and all traffic counts are estimates made in the 1973 Master Plan.

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PART 1. DEMAND FORECASTS

		Actual	Forecast			
	Year:	1973	1977	1982	1987	1992
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	0.1				
1a.	Air Taxi					
2.	General Aviation	120.4	195.0	286.5	384.0	490.0
2a.	Itinerant	42.8	69.0	115.0	173.0	245.5
2b.	Local	77.6	126.0	171.5	211.0	244.5
3.	Military Army	1.0	1.0	1.0	1.0	1.0
4.	Total Aircraft Operations	121.5	196.0	287.5	385.0	491.0
5.	Total FAA 1974 Forecasts					
	Aircraft Movements					
6.	Peak-Day	632				
7.	Peak-Hour	117				
	Based Aircraft					
8.	Fixed Wing	150				
8a.	Single Engine	140				
8b.	Jets	0				
8c.	Seaplane	0				
9.	Rotary Wing	0				
10.	Total Based Aircraft	150	265	410	550	670

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.	16	3700	Same	-	VORTAC-B		
2.	34	3700	Same	-	VORTAC-B		
3.	16L	0	5700	1978	-	ILS	Beyond 1978
4.	34R	0	5700	1978	-	VASI	
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B (C) D E

12. Fleet Mix (Percentage) 0 Class AA 0 Class A 0 Class B 7 Class C 93 Class D+E Class E

Miscellaneous Airside Data

13.	FAA Tower	No	18.	Unicom	Yes
14.	Hours of Service	Dawn-1 hr after sun-down	19.	Automatic Terminal Information Service (ATIS)	No
15.	Flight Service Station	No	20.	Primary Instrument Runway	16/34
16.	Vortac Station	No	21.	Joint Use	No
17.	Weather Station	No			

		Actual		Forecast		
	Year:	1973	1975	1978		Beyond 1978
	Airside Capacities (Operations)					
22.	Maximum Hourly Capacity (VFR)	104	111	226	-	236
23.	Maximum Hourly Capacity (IFR)	53	53	64	-	64
24.	Practical Annual Capacity (000)	145	155	315	-	330

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1973	1975	1978		Beyond 1978
1. Parking Apron Area (000 sq ft)	353.7	441.0	612.0	-	1620.0
2. Hangar Area (000 sq ft)	18.4	18.4	18.4	-	18.4
3. T-Hangar Parking Positions	30	70	90	-	240
4. Conventional Hangars	2	2	2	-	5
5. Terminal Building Area (sq ft)	14000	14000	14000	-	19000

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual	Forecast			
Year:	1973	1975	1978		Beyond 1978
1. Automobile Parking Spaces	320	466		-	
2. Access Road Capacity (vehicles/hr)	(4200' wide ~25-30 mph)			-	
3. Rental Car Service	Yes	Yes	Yes	-	Yes
4. Bus Access	No*	No	No	-	No
5. Rail, Subway, Other Access	No	No	No	-	No

*There is a shuttle service provided by FBO.

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate
2/3,4/3	Runway	5700 ft	Beyond 1978	3300	1972
4000' by 1978 @ $1900K; 1700' extension and widening @ $1400K (widen to 150' from 100'). Costs not included above are a parallel taxiway $600K; miscellaneous $1172K (sewer, water, etc.).					
3/1/5	Apron	360 a/c	Beyond 1978	784	1972
3/3/2	T-Hangars	40	1975	400	1972
3/3/3	T-Hangars	20	1978	220	1972
3/3/5	T-Hangars	150	Beyond 1978	1050	1972
3/5/5	GA Terminal	5000 sq ft	Beyond 1978	188	1972
4/1/5	Auto Parking		Beyond 1978	100	1972
4/1/3	Auto Parking		1978	10	1972
4/1/2	Auto Parking	146 cars	1975	16	1972
4/4/5	3 Hangars	14700 sq ft ea	First by 1976 Last by 1980	.010/sq ft	1975
4/2/2	Access Road		1975	28	1972
Resurface access roadway.					
4/2/3	Access Road		1978	60	1972
Extend Rte 782 across R.R. to airport.					
4/2/5	Access Road		Beyond 1978	135	1972
Road connection off Western Manassas Loop.					

SECTION 5

SUMMARY AND CONCLUSIONS

The primary purpose of this study was to gather information on 104 individual air carrier and general aviation airports in 25 large air hubs. Policy analysis of planning recommendations were not included in the scope of the study. During the survey the most current and complete information was collected on the existing and planned airport capacities and facilities. The major data items included runway capacities (hourly and annual), terminal sizes including ticket counter lengths, baggage claim areas, security checkpoints, and gates (including wide body and remote), and landside data including curb frontages, parking spaces, passenger modal splits, and access roadway capacities. For general aviation airports the data included numbers of based aircraft, hangared and unhangared aircraft parking positions, and runway and access roadway information. Each airport has its own unique problems and features. Forecasts are continually changing and plans based on them also change. The goal was to collect the best available data at each airport.

The data is amenable for incorporation into a computer data management system which can be updated as additional or more current information becomes available. Although the primary purpose of the effort was only to collect data, many uses of the data are readily apparent. An assessment of the adequacy of airport capacity both now and in the future can easily be made for the individual large hub airports as well as for the large hubs in general. The cost data collected can assist in determining the incremental costs in providing additional passenger services or capacity for airside, terminal, and landside. From this study and others (References 1 and 2), it appears that for many large hub airports saturation in the near future will occur with the landside (access/egress and auto parking) and terminal capacity. The data collected

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in this study can also be useful for determining the cost of increased capacity to meet expected demands.

These data are also useful as a guide to other airports for planning or assessing future expansion. Recently, more computer models have been created for simulation of the airport landside. None of these models has been completely validated with adequate data to represent an actual airport (Reference 6); the data collected in this study could provide an important input for such validation. Not only can these data be used to obtain the cost of added capacity, but in conjunction with delay analysis, these data can provide some useful insight into airport cost benefit analyses.

REFERENCES

1. FAA Report on Airport Capacity, Vols. 1 and 2. FAA Report No. FAA-EM-74-5, The Mitre Corporation (M74-12), McLean, Virginia, January 1974.

2. Graham, J. L.: Ground Access - The Key to Airport Development. Proceedings of the Workshop: Air Transportation Demand and Systems Analysis, FTL Report R75-8, Massachusetts Institute of Technology, Cambridge, Mass., p. 145, August 1975.

3. U. S. Federal Aviation Administration and Civil Aeronautics Board, Airport Activity Statistics, Washington, D. C., June 1974.

4. Parsons, R. M. Company, et al.: The Apron and Terminal Building Planning Manual. Report No. FAA-RD-75-191, Federal Aviation Administration, Washington, D. C., July 1975.

5. Highway Research Board: Highway Capacity Manual. Special Report No. 87, Transportation Research Board, National Academy of Sciences, Washington, D. C., March 1966.

6. McCabe, L.; and Carberry, T.: Simulation Models for Airport Facilities. Airport Landside Capacity, Special Report 159, Transportation Research Board, National Academy of Sciences, July 1975.

7. Federal Aviation Administration: Airport Form 5010-1. 1975. (One form for each airport.)

8. Jeppesen, Sanderson, Inc.: Approach Charts. Denver, Colorado, 1975.

9. Federal Aviation Administration: Terminal Area Forecast 1976-1986. September 1974.

10. Aircraft Owners' and Pilots' Association: Airports USA, 1976.

11. Federal Aviation Administration: Location Identifiers, Order 7350.4H, 1976.

12. Airborne Instrument Laboratories: Airport Capacity Handbook. June 1969.

13. Douglas Aircraft Company: Airfield Capacity and Delay Handbook. Prepared for FAA, Report FAA-RD-74-124, May 1975.

14. Federal Aviation Administration: Terminal Instrument Procedures (TERPS).

15. Parsons, R. M. Company: Baggage Handling. Prepared under Contract DOT-OS-00062-B, April 1971.

16. Federal Aviation Administration: Utility Airports, Advisory Circular AC 150/5300-4, 1968.

APPENDIX A

AIRPORT DATA LISTS

The data items which were sought from the air carrier and general aviation airports surveyed in this study are discussed in this appendix. Sample blank forms are presented, followed by item by item descriptions of the elements. These same data were sought from every airport in the survey depending on their classification. A list of the 104 airports surveyed, which distinguishes the air carrier and general aviation airports, is presented in Table 2-2. Definitions of terms used are presented in the Glossary. The data are contained in Section 4 of this study, entitled Airport Data.

The general format of the airport data lists is discussed here. The first page contains general airport information including airport name, code, and other miscellaneous data. An airport runway layout plan followed by a general description of the airport is also presented. The general format for the first four parts of the form is to list the data items in separate rows and to note the existing or actual data in only the first column and forecast information (or planned expansions) in all subsequent columns. The year by which the expansions are to be completed is noted at the head of each column. These years correlate to the forecasts of demand levels presented in Part 1. Most expansion plans are keyed to a particular demand level by the airport planners. The forecasts attempt to identify when the demand levels are reached.

Part 1 of the form identifies the airport demand forecasts. Parts 2, 3, and 4 describe the airside, terminal, and landside data elements collected. Part 5 describes the costs for the planned expansion projects. The data items are described herein, along with any estimation or approximation technique used. Occasionally, a forecast "requirement" is included in Parts 2, 3, or 4 rather than the normal "planned" expansion. This

is used only when actual plans are not available and when the airport planners believe that the requirements will be met. These and other exceptions are always noted in the form either in the general description or by a footnote.

All of the desired data were not found for all airports. On the forms, if the data were not available, then those items were left blank. If the data items did not apply to the airport, then dashes "-" were entered. For example, if no runway extensions are planned, then "Year Extension to be Complete" does not apply and a dash is entered in that column.

The primary sources for the data are listed by each large hub in Appendix C. These include personal contacts as well as master plans and other reports. In addition, other sources for each airport include the FAA 5010 forms (Reference 7), Jeppesen-Sandersen, Inc. runway approach charts (Reference 8), FAA 1974 Terminal Area Forecasts (Reference 9), AOPA's Airports U.S.A. 1976 (Reference 10), and the FAA Location Identifiers, Order 7350.4H (Reference 11).

A.1 AIR CARRIER AIRPORT DATA LIST

This subsection presents the actual data list used for air carrier airports in the survey. An item-by-item explanation follows.

A.1.1 AIR CARRIER AIRPORT DATA FORM

Airport Name _____ Code _____

Hub Name _____ Master Plan Status _____

Approximate Distance and Direction to Hub CBD _____

Approximate Number of Employees at Airport _____ as of _____

Number of Air Carriers _____ Commuters _____

Terminal Type: ____Linear ____Pier ____ Satellite ____Transporter

[Airport Runway Layout]

[General Description]

PART 1. DEMAND FORECASTS

		Actual		Forecast		
	Year:	____	____	____	____	____
	Enplaned Passengers (000)					
1.	Air Carrier	____	____	____	____	____
2.	Commuter (Including Air Taxi)	____	____	____	____	____
2a.	Air Taxi	____	____	____	____	____
3.	Connecting	____	____	____	____	____
4.	Originating	____	____	____	____	____
5.	Domestic	____	____	____	____	____
6.	International	____	____	____	____	____
7.	Total Enplaned Passengers	____	____	____	____	____
8.	Total FAA 1974 Forecasts		____	____	____	____
	Aircraft Operations (000)					
9.	Air Carrier	____	____	____	____	____
10.	Commuter (Including Air Taxi)	____	____	____	____	____
10a.	Air Taxi	____	____	____	____	____
11.	General Aviation	____	____	____	____	____
11a.	Itinerant	____	____	____	____	____
11b.	Local	____	____	____	____	____
12.	Military ____	____	____	____	____	____
13.	Total Aircraft Operations	____	____	____	____	____
14.	Total FAA 1974 Forecasts		____	____	____	____
	Peak Hour Movements					
15.	Passengers (Enplaned and Deplaned)	____	____	____	____	____
16.	Aircraft	____	____	____	____	____
	Cargo					
17.	Total Enplaned Cargo (000 Tons)	____	____	____	____	____

PART 2. AIRSIDE FACILITIES AND CAPACITIES

	Runways Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension to be Complete	Best Landing Aid
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____

Airside Capacities (Operations)

16.	Maximum Hourly Capacity (VFR)	_____	_____	_____	_____	_____
17.	Maximum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
18.	Minimum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
19.	Practical Annual Capacity (000)	_____	_____	_____	_____	_____

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
Passenger Terminal(s)					
Gates					
1. Aircraft Parking Positions	_____	_____	_____	_____	_____
1a. International Terminal	_____	_____	_____	_____	_____
2. Wide Body Parking Positions	_____	_____	_____	_____	_____
2a. International Terminal	_____	_____	_____	_____	_____
3. Gates (Passenger Exits)	_____	_____	_____	_____	_____
3a. International Terminal	_____	_____	_____	_____	_____
Ticket Counters					
4. Linear Feet	_____	_____	_____	_____	_____
4a. International Terminal	_____	_____	_____	_____	_____
5. Stations	_____	_____	_____	_____	_____
5a. International Terminal	_____	_____	_____	_____	_____
Baggage Claim					
6. Public Area (sq ft)	_____	_____	_____	_____	_____
6a. International Terminal	_____	_____	_____	_____	_____
7. Equipment Types	_____	_____	_____	_____	_____
8. Equipment Capacity (bags/min)	_____	_____	_____	_____	_____
8a. International Terminal	_____	_____	_____	_____	_____
Security Inspection					
9. Parallel Passenger Servers	_____	_____	_____	_____	_____
9a. International Terminal	_____	_____	_____	_____	_____
10. Manual (Carry On Baggage)	_____	_____	_____	_____	_____
10a. International Terminal	_____	_____	_____	_____	_____
11. X-ray (Carry On Baggage)	_____	_____	_____	_____	_____
11a. International Terminal	_____	_____	_____	_____	_____

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

		Actual		Forecast		
	Year:	_____	_____	_____	_____	_____
	Terminal Area (000 sq ft)					
12.	Total Area	_____	_____	_____	_____	_____
12a.	International Terminal	_____	_____	_____	_____	_____
	Passenger Capacity (Enplaned and Deplaned)					
13.	Peak Hour	_____	_____	_____	_____	_____
14.	Annual (000)	_____	_____	_____	_____	_____
	Cargo Terminal(s)					
15.	Terminal Areas (000 sq ft)	_____	_____	_____	_____	_____
16.	Apron Area (000 sq ft)	_____	_____	_____	_____	_____
17.	Aircraft Parking Positions	_____	_____	_____	_____	_____
18.	Truck Loading Docks	_____	_____	_____	_____	_____
19.	Cargo Loading Type: ____Manual ____Semi-Automatic ____Fully Automatic					
	General Aviation Terminal(s)					
20.	Terminal Area (sq ft)	_____	_____	_____	_____	_____
21.	Apron Area (000 sq ft)	_____	_____	_____	_____	_____
22.	Hangar Area (sq ft)	_____	_____	_____	_____	_____
	Miscellaneous Data					
23.	Percentage of Passengers Who Use Curb Then Parking Lot	_____				
24.	Percentage of Passengers Who Use Curb Only	_____				
25.	Average Length of Stay of Car in Parking Lot	_____				
26.	Number of Checked Bags per Passenger	_____				

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Year:	Actual		Forecast		
		____	____	____	____	____
	Automobile Parking Spaces					
1.	Total Public	____	____	____	____	____
1a.	Short Term	____	____	____	____	____
2.	Rental Car	____	____	____	____	____
	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	____	____	____	____	____
	Curb Frontage					
4.	Lineal Feet	____	____	____	____	____
4a.	Enplaned	____	____	____	____	____
4b.	Deplaned	____	____	____	____	____
5.	International Terminal Lineal Feet	____	____	____	____	____
5a.	Enplaned	____	____	____	____	____
5b.	Deplaned	____	____	____	____	____
	Mass Transit					
6.	Bus	____	____	____	____	____
7.	Subway, Rail, Other	____	____	____	____	____
	Passenger Modal Split					
8.	Automobile (Includes Rental Car)	____%				
9.	Taxi	____%				
10.	Bus (Includes Hotel Shuttles, Limos)	____%				
11.	Subway, Rail, Other	____%				
	Percentage of People Entering Airport					
12.	Passengers	____%				
13.	Visitors, Well Wishers, Greeters	____%				
14.	Employees	____%				
	Vehicle Count					
15.	Number of Vehicles Per Passenger	____				

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

A.1.2 DETAILS OF AIR CARRIER AIRPORT DATA FORM

Airport Name _____ Code _____

Hub Name _____

The official airport name (without the word "airport") is placed here, and the standard three symbol airport code is placed under Code. This code is the three letter airport identifier as established in FAA Order 7350.4H (Reference 11). The code is used here to aid in distinguishing airports with the same or similar names and to identify airports with more than one name. The hub name is the city near which the airport is located in the list of twenty-five presented in Table 2-2; it is the hub to which the airport "belongs" for this study.

Master Plan Status _____

The master plan status is the year in which the most recent usable master plan was completed for this airport. An airport layout plan report, if identical in content to a traditional master plan and if used as a planning document by the airport, was treated here as a master plan. If the airport has no current master plan, then "None" was entered; if a plan was underway and data from that study were not available for this effort, then "Underway" was entered followed by the expected year of completion, if available. A year followed by "Draft" indicates a plan from which data were taken, but which was not yet formally approved.

Approximate Distance and Direction to Hub CBD _____

The approximate straight-line distance in statute miles to the central business district (CBD) of the city identified in hub name is entered here. The general direction to the CBD from the airport is also entered.

Approximate Number of Employees at Airport _____ as of _____

The estimated number of people who work on the airport property in some industry related to the airport is entered here along with the year of the estimate. This number should not be considered precise since the definitions of who to count and what is industry related varies from airport to airport. It is presented to give some indication of the level of airport activity and related man-power.

Number of Air Carriers _____ Commuters _____

The number of certificated air carriers and commuter airlines operating at the airport are noted in these spaces. Intrastate carriers are included under Commuters. Definitions of air carriers and commuters appear in the Glossary.

Terminal Type: ____Linear ____Pier ____Satellite ____Transporter

The passenger terminal concept type is indicated here. Most airports use a combination of two or more terminal types in which case more than one item is checked. Illustrations of the basic terminal types are shown in Figure A-1.

[Airport Runway Layout]

An illustration of the airport runway configuration, apron layout, and terminal size and location is presented here. Most of the figures are copyright Jeppesen-Sanderson, Inc. and are used with permission. These illustrations are for general information only and are not to be used for navigation purposes. The drawings are accurate to scale, but they may not always have the latest airport modifications noted in the data form.

[General Description]

A brief description of the airport, planning status, and special features is presented here. Any unusual or nonstandard entries in the data list are noted here.

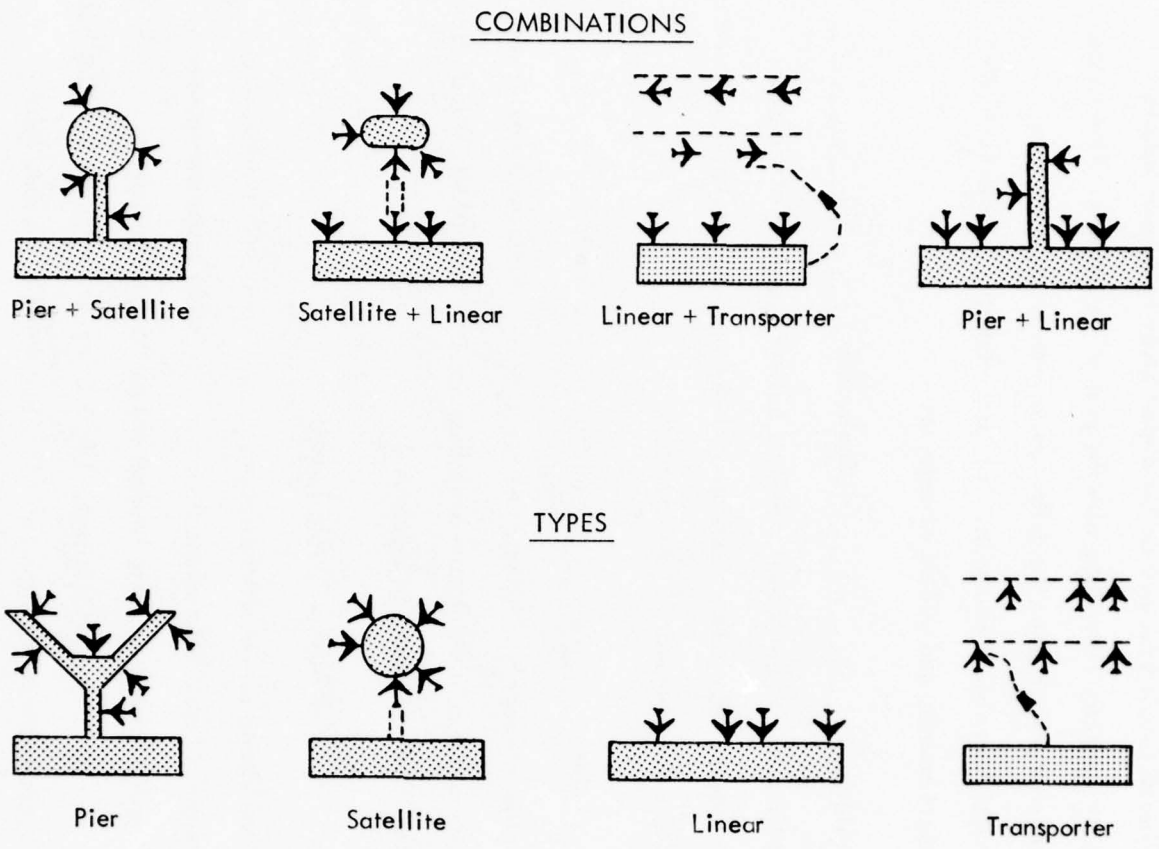


Figure A-1. Terminal Types and Combinations.

PART 1. DEMAND FORECASTS

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____

This part of the airport data list contains the forecasts for enplaned passengers, aircraft operations, peak hour movements, and cargo. The years of the forecasts are noted after "Year" at the top of each column; the first column, "Actual," represents data for a year in which actual data is used. The actual year is not always the most recent year for which data are available, and is often the base year used when the forecasts were generated. Thus, 1975, a year which had passed when some of the airport data were collected, may appear as a forecast year, and, hence, those figures may be at variance with what actually happened. Except where specifically noted, all forecasts are airport forecasts.

Enplaned Passengers (000)

1.	Air Carrier	_____	_____	_____	_____	_____
2.	Commuter (Including Air Taxi)	_____	_____	_____	_____	_____
2a.	Air Taxi	_____	_____	_____	_____	_____

The number of enplaned passengers (in thousands) is entered in items 1 and 2 as divided between commuter and air carrier operations. Air carrier includes scheduled, charter, and intrastate passengers. Air taxi passengers are included in item 2, but when separate air taxi figures are available, they are also noted in item 2a. Definitions of these terms appear in the Glossary.

3.	Connecting	_____	_____	_____	_____	_____
4.	Originating	_____	_____	_____	_____	_____

The number of enplaned passengers (in thousands) is entered in items 3 and 4, according to whether they are connecting or originating. Connecting includes through passengers.

PART 1. DEMAND FORECASTS (Continued)

Definitions appear in the Glossary. The total of items 3 and 4 is the total enplaned passengers at the airport (in thousands), except where specifically noted.

5.	Domestic	_____	_____	_____	_____	_____
6.	International	_____	_____	_____	_____	_____

The number of enplaned passengers (in thousands) is entered in items 5 and 6 according to whether they are domestic (within the United States) or international (outside the United States).

7.	Total Enplaned Passengers	_____	_____	_____	_____	_____
8.	Total FAA 1974 Forecasts	_____	_____	_____	_____	_____

Item 7 is the total of enplaned passengers (in thousands) at the airport. It is the sum of items 1 and 2, which is also item 3 plus 4, or item 5 plus 6, unless otherwise noted. Item 8 is the FAA forecast of total enplaned passengers interpolated from the 1974 Terminal Area Forecasts (Reference 9).

Aircraft Operations (000)

9.	Air Carrier	_____	_____	_____	_____	_____
10.	Commuter (Including Air Taxi)	_____	_____	_____	_____	_____
10a.	Air Taxi	_____	_____	_____	_____	_____

The number of aircraft operations (takeoffs and landings in thousands) is entered in these spaces. Item 9 includes all-cargo, scheduled, charter, and intrastate operations. Item 10 includes air taxi as well as commuter, but where air taxi operations are available separately, these are also presented in item 10a.

PART 1. DEMAND FORECASTS (Continued)

11. General Aviation	_____	_____	_____	_____	_____
11a. Itinerant	_____	_____	_____	_____	_____
11b. Local	_____	_____	_____	_____	_____

The total number of general aviation operations (in thousands) is presented in item 11. This total is broken out into itinerant and local operations in items 11a and 11b. Definitions of general aviation and local and itinerant operations are given in the Glossary.

12. Military _____	_____	_____	_____	_____	_____

The number of military operations is shown in item 12. The agency which perfoms the majority of the operations (usually located at the airport) is noted in the space following Military. If there are no regular military operations at the airport then no entry is made or "Various" or "None" appears.

13. Total Aircraft Operations	_____	_____	_____	_____	_____
14. Total FAA 1974 Forecasts		_____	_____	_____	_____

The total aircraft operations (in thousands) at the airport is noted in item 13. This is the sum of items 9, 10, 11, and 12. The FAA forecast of total operations (in thousands) is shown as item 14, interpolated for consistency with the years shown from the 1974 Terminal Area Forecasts (Reference 9).

Peak Hour Movements

15. Passengers (Enplaned and Deplaned)	_____	_____	_____	_____	_____
16. Aircraft	_____	_____	_____	_____	_____

The peak hour (or busy hour) numbers of passengers enplaned and deplaned at the airport is presented in item 15. The number of aircraft operations occurring during the peak hour is entered in item 16.

PART 1. DEMAND FORECASTS (Continued)

Cargo

17. Total Enplaned Cargo (000 tons) _____ _____ _____ _____ _____

The total yearly enplaned cargo handled at the airport (in thousands of tons) is noted in item 17. Cargo includes freight, express, and mail; it includes cargo handled by passenger flights as well as all-cargo operations.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways		Usable Landing
	Direction	Length (ft)
1.	_____	_____
2.	_____	_____

The airside facilities and capacities are presented in this part. Runway information is presented first. Runways are described by noting their orientation under "Direction". One strip of pavement has two directions, depending upon the direction of travel of the arriving/departing aircraft using the runway. The usable landing length in feet is noted under "Usable Landing Length (ft)"; this information is taken from Jeppesen-Sandersen, Inc. approach charts (Reference 8). The length shown is the distance on the runway beyond the designated point of landing threshold or the same length as shown in the airport diagram if no such displaced threshold exists. In some cases the airport authority had more current information than that contained in the Jeppesen-Sandersen, Inc. chart. In these cases, the data supplied by the airport authorities were entered. In the case where a new runway is to be constructed in the future the word "None" is used in this column. If a runway exists but is unusable for some reason (e.g., overlay needed), then 0 is used in this column.

Future Usable Runway Length (ft)	Year Extension to be Complete
_____	_____
_____	_____

For each runway the future runway length is noted as shown above. It is the anticipated length of usable pavement. If no change is planned then "Same" is entered. Changes from the existing usable landing length could be due to runway pavement extension,

removal or addition of a displaced threshold, or the closing of the runway. If a runway is to be closed, the future usable length is shown as "0". Whenever a change between the usable landing length and the future usable runway length appears, the year of the anticipated change is shown in the adjacent column. If no change is anticipated "-" shows the non-applicability of this column. If the year of transition is unknown, the entry is left blank.

Best
Landing
Aid

_____
_____

The best instrument landing aid providing the most precise navigational information or the lowest approach minimums for a straight-in approach to the runway is noted in this column. Radar is not considered to be a part of this instrumentation family for the purposes of this study. Approaches providing only circling minimums are also not listed. These landing aids are ranked in the following order:

1. ILS - Category IIIa (ILS-IIIa)
2. ILS - Category II (ILS-II)
3. ILS - Category I (ILS-I or simply ILS)
4. LOC (Localizer)
5. SDF (Simplified Directional Facility)
6. VOR or VORTAC
7. NDB (Non-Directional Beacon)
8. VFR (Visual Flight Rules - no instrument landing aid)

A definition of each of the above terms is presented in the Glossary.

PART 2. AIRSIDE FACILITIES AND CAPACITIES (Continued)

NOTE: The above information (runway direction, usable landing length, future usable runway length, and best landing aid) is shown for each runway, existing or proposed, at the airport (Items 1 through 14 of Part 2).

15. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

The current (or as of the date of the planning document) mix of aircraft which use the airport is noted here. The aircraft are identified by type (class) from AA, jumbo jets, to E, light twins and single engine, as noted below:*

Class AA - Heavy jet aircraft of gross weight in excess of 300,000 pounds such as B-747, DC-10 and L-1011.

Class A - Other large four engine jets such as B-707 and DC-8-10 through 20.

Class B - Current two and three engine jets such as B-727, DC-9, B-737, and most four engine prop transports.

Class C - Medium twin engine aircraft such as F-27, Convair 440, 540 and most business jets.

Class D - Light single and twin engine aircraft such as Aero Commander, Beech Bonanza and Debonair, Beech 50 Twin Bonanza, Beech Queen Air, Beech Travel Air, Cessna Skyknight, de Havilland Dove, Piper Apache, Piper Aztec.

Class E - Light single engine aircraft such as Aeronca Champion, Beech Musketeer, Cessna 140, 150, 170, 180, 210 series, de Havilland Beaver (L-20), Mooney M20.

* The classification of aircraft by types varies widely in different reports. At least three different methods of classification have been identified (References 12, 13, and 14). The one presented here is used most widely by airport planners.

PART 2. AIRSIDE FACILITIES AND CAPACITIES (Continued)

	Actual				
Year:	_____	_____	_____	_____	_____
Airside Capacities (Operations)					
16. Maximum Hourly Capacity (VFR)	_____	_____	_____	_____	_____

The Maximum Hourly Capacity (VFR) is also referred to as the Practical Hourly Capacity. It is the most commonly used measure of airport capacity. It gives the level of demand (landings and take-offs) at which the average delay for the use of runways becomes equal to 4 minutes. This is the VFR capacity for the most commonly used runway configuration. Since the most common runway configuration is usually the one that maximizes capacity, VFR capacity is also usually equal to the maximum VFR capacity.

17. Maximum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
18. Minimum Hourly Capacity (IFR)	_____	_____	_____	_____	_____

Item 17, Maximum Hourly Capacity (IFR), is the IFR capacity associated with the most common IFR configuration of the airport. It is usually listed in airport documents simply as "IFR capacity". When weather conditions deteriorate, the preferred IFR runway configuration may not be usable. This implies that the capacity of the airport deteriorates further. For instance, at JFK, about 4 percent of the time the airport capacity is reduced to about 56 operations/hour (from its usual IFR capacity of 65), due to the forced use of conflicting instrument runways. This is entered as item 18, when available.

19. Practical Annual Capacity (000)	_____	_____	_____	_____	_____

Practical Annual Capacity or PANCAP is a rough indicator of the total annual number of operations at which an airport begins to exhibit undesirable congestion phenomena.

It is derived from the VFR and IFR hourly capacities by taking into account factors such as the traffic mix at the airport and the number of touch-and-go flights. It is not an upper limit on the annual capacity of an airport. For instance, Washington National Airport has been operating for the last 8 years at anywhere from 30 percent to 50 percent above its rated PANCAP with no catastrophic effects.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual			Forecast	
Year:	_____	_____	_____	_____	_____

Passenger Terminal(s)

NOTE: The following fourteen items refer to the passenger terminals at the airport, domestic and international. The "a" items in Part 3 apply to the international terminal only. This is the facility which is used exclusively for international passengers. If no such facilities exist, or if domestic and international flights use the same facility, these items are left blank or filled in with zeros.

Gates

1.	Aircraft Parking Positions	_____	_____	_____	_____	_____
1a.	International Terminal	_____	_____	_____	_____	_____

Under the heading "Gates", aircraft parking positions include the total number of positions actively used for the loading or unloading of passengers. This includes those gates adjacent to terminals and remote parking positions as well. Item 1a represents those active parking positions which are used exclusively for international flights.

2.	Wide Body Parking Positions	_____	_____	_____	_____	_____
2a.	International Terminal	_____	_____	_____	_____	_____

A "jumbo jet" (DC-10, L1011, B-747) will take up more parking area than a smaller aircraft. That is, an airport with 37 gates as defined in item 1 may not be able to handle 37 wide-bodied aircraft. Item 2 is the number of wide-bodied aircraft which can be parked at the airport for the loading and unloading of passengers. Item 2a applies to the international terminal only. Items 2 and 2a are always less than or equal to items 1 and 1a, respectively.

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

3.	Gates (Passenger Exits)	_____	_____	_____	_____	_____
3a.	International Terminal	_____	_____	_____	_____	_____

Item 3 applies to the number of passenger exits from the terminal to the aircraft. These exits may be connected to the aircraft by jetways, mobile lounges, or walkways. Item 3 includes domestic and international gates, and item 3a refers to the international gates only, if any.

Ticket Counters

4.	Linear Feet	_____	_____	_____	_____	_____
4a.	International Terminal	_____	_____	_____	_____	_____
5.	Stations	_____	_____	_____	_____	_____
5a.	International Terminal	_____	_____	_____	_____	_____

Item 4 is the total length of ticket counter space available at the airport in linear feet. In some cases this figure had to be estimated (such as for walk-through ticket counters). This figure refers to space existing (or planned in the case of columns 2 through 5), although not all of it may be in actual use. Item 5 is the number of stations along the ticket counters which could serve passengers, obtained by actual count. No distinction was made between express check-in, full service, or stand-by locations. Items 4 and 5 apply to the entire airport, while items 4a and 5a represent the international terminal facilities.

Baggage Claim

6.	Public Area (sq ft)	_____	_____	_____	_____	_____
6a.	International Terminal	_____	_____	_____	_____	_____

The total area reserved for public use for baggage claims is noted in item 6. It does not include baggage make up areas. In many cases where a concourse was situated adjacent to the claim area or when rental car agencies shared the space, this figure was estimated.

At other airports, such as where secure claim areas are used, this area could be accurately determined. Item 6a applies to the international portion only.

7.	Equipment Types	_____	_____	_____	_____	_____
8.	Equipment Capacity (bags/min)	_____	_____	_____	_____	_____
8a.	International Terminal	_____	_____	_____	_____	_____

Item 7 lists the baggage claim equipment types in use at the airport at the time of the survey. This includes carousels, conveyor belts and racks. The total baggage claim equipment capacity is entered in item 8 in bags delivered per minute. When this item was not available from the airport, the estimate of 60 bags/min per 30 foot carousel and per conveyor belt was used. This estimate is based on the information provided in Reference 15. Item 8a represents baggage claim equipment in the international terminal area.

Security Inspection

9.	Parallel Passenger Servers	_____	_____	_____	_____	_____
9a.	International Terminal	_____	_____	_____	_____	_____

Item 9 is the total number of stations (servers) at the airport which are used or are available for passenger security inspection. This is the number of metal detector "arches" in common use. If, for example, there are two metal detection archways, but the second is for reinspection of passengers failing the first, both are treated as one inspection station. If the two are used in parallel for independent inspection of passengers, two stations (servers) are counted. Item 9a represents stations in the international terminal area.

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

10.	Manual (Carry On Baggage)	_____	_____	_____	_____	_____
10a.	International Terminal	_____	_____	_____	_____	_____
11.	X-ray (Carry On Baggage)	_____	_____	_____	_____	_____
11a.	International Terminal	_____	_____	_____	_____	_____

Items 10 and 11 refer to the method of inspection of carry-on articles. If the inspection is done manually it is counted in item 10; if the inspection is done automatically (via x-ray, fluoroscope, or other mechanical means), then it is counted in item 11. Devices in the international terminal are singled out in items 10a and 11a.

Terminal Area (000 sq ft)

12.	Total Area	_____	_____	_____	_____	_____
12a.	International Terminal	_____	_____	_____	_____	_____

The total area of all passenger terminals (in thousands of square feet) is noted in item 12. This includes all public, concessions, and airport areas as well as concourses, lobbies, and satellite areas. Separate international terminals are identified in item 12a.

Passenger Capacity (Enplaned and Deplaned)

13.	Peak Hour	_____	_____	_____	_____	_____
14.	Annual (000)	_____	_____	_____	_____	_____

The peak hour and annual capacity of the domestic and international passenger terminal complex are entered in items 13 and 14 respectively. When this information is not provided by the airport planner, these items are estimated as follows:

1. Peak Hour (item 13) = Sq Ft Domestic Terminal (item 12 minus 12a) ÷ 250
   + Sq Ft International Terminal (item 12a) ÷ 300.
2. Annual Capacity = Peak Hour Capacity (item 13) ÷ 0.04% (i.e., 0.0004).
3. Annual (000) (item 14) = Annual Capacity (above) ÷ 1000.

PART 3. TERMINAL FACILITIES AND CAPACITIES (Continued)

Cargo Terminal(s)

15. Terminal Areas (000 sq ft) _____ _____ _____ _____ _____
16. Apron Area (000 sq ft) _____ _____ _____ _____ _____
17. Aircraft Parking Positions _____ _____ _____ _____ _____
18. Truck Loading Docks _____ _____ _____ _____ _____
19. Cargo Loading Type: ____Manual ____Semi-Automatic ____Fully Automatic

Items in this section refer to the cargo handling parts of the airport. Item 15 is the total area (in thousands of square feet) of all buildings used exclusively for the handling of cargo (excludes airport post offices). Item 16 is the paved apron area (in thousands of square feet) usually adjacent to the cargo buildings which is used by all-cargo aircraft. Item 17 is the number of spaces reserved for all-cargo aircraft. The number of truck loading docks at the cargo terminals is entered in item 18. Item 19 identifies the type of cargo loading performed at the airport. Manual refers to the loading of the aircraft by hand. *Semi-automatic implies some* containerization or automatic loading equipment is used. Fully automatic is completely containerized loading.

General Aviation Terminal(s)

20. Terminal Area (sq ft) _____ _____ _____ _____ _____
21. Apron Area (000 sq ft) _____ _____ _____ _____ _____
22. Hangar Area (sq ft) _____ _____ _____ _____ _____

Items in this section refer to the general aviation terminal at the airport, if there is one. It does not include any fixed based operator (FBO) areas or the main passenger terminal, even though general aviation may use those facilities. If no separate terminal exists, no entry is made. The total terminal area in square feet is entered in item 20. The paved apron area adjacent to the terminal used exclusively for parking general aviation aircraft is entered in item 21 in thousands of square feet. The hangar area

used exclusively for general aviation aircraft (based and itinerant) is noted in item 22. It should be noted that areas operated by the airport and not FBOs are entered in these items.

Miscellaneous Data

23.	Percentage of Passengers Who Use Curb, Then Parking Lot	_____
24.	Percentage of Passengers Who Use Curb Only	_____
25.	Average Length of Stay of Car in Parking Lot	_____
26.	Number of Checked Bags per Passenger	_____

Miscellaneous data on airport facility usage are included in items 23 through 26 in Part 3. In most cases, these data were not available from the airport. Item 23 is the percentage of enplaning passengers who use the terminal curb to unload passengers/baggage and then use the airport parking facilities. This item also includes the deplaning passengers who pick up their car from the parking lot and then use the curb to load passengers/baggage. Item 24 is the percentage of passengers using the terminal curb, but not the parking lot (i.e., arriving or leaving by taxi, or being picked up/dropped off by someone with a car). Items 25 and 26 are self explanatory. All percentages are based on total passengers (connecting/originating, enplaning/deplaning, domestic/international). When data for short and long term parking are known separately both numbers are entered and identified.

PART 4. LANDSIDE FACILITIES AND CAPACITIES

		Actual		Forecast		
	Year:	_____	_____	_____	_____	_____
	Automobile Parking Spaces					
1.	Total Public	_____	_____	_____	_____	_____
1a.	Short Term	_____	_____	_____	_____	_____
2.	Rental Car	_____	_____	_____	_____	_____

The total number of public automobile parking spaces, short term and long term, is entered in item 1. This excludes employee and rental car parking. The number of short term only parking spaces is presented in item 1a. This is either premium priced parking, metered parking, or as otherwise noted by the airport. Rental car parking spaces, including ready and storage spaces, if on the airport property, are noted in item 2.

	Access Roadway					
3.	Entrance Capacity (vehicles/hour)	_____	_____	_____	_____	_____

The total capacity of the roadway access to the main passenger terminals at the airport is entered in item 3 in terms of vehicles per hour. This is the roadway capacity at the final merging point of the access roads, or the sum of the capacities of independent roadways, such as those entering the terminal complex at different ends of the airport (if independent). When the access capacity was not known, sometimes the minimum number of access lanes and maximum vehicle speed were noted.

	Curb Frontage					
4.	Lineal Feet	_____	_____	_____	_____	_____
4a.	Enplaned	_____	_____	_____	_____	_____
4b.	Deplaned	_____	_____	_____	_____	_____
5.	International Terminal Lineal Feet	_____	_____	_____	_____	_____
5a.	Enplaned	_____	_____	_____	_____	_____
5b.	Deplaned	_____	_____	_____	_____	_____

PART 4. LANDSIDE FACILITIES AND CAPACITIES (Continued)

The total lineal feet of curb frontage along the domestic and international passenger terminal complex used by the public for the loading and unloading of passengers and baggage is entered in item 4. This total is divided into enplaning curb and deplaning curb lengths in items 4a and 4b when such distinctions are apparent. An example of this is an upper enplaning and a lower deplaning curb. No entry in items 4a and 4b is made when the same curb is used by both enplaning and deplaning passengers. Items 5, 5a and 5b correspond to items 4, 4a and 4b, respectively, and apply to a separate international terminal if there is one. As with baggage claim area and ticket counter lengths, the precises boundaries of the "curb" are often ill defined and an estimate must be used.

Mass Transit

6.	Bus	_____	_____	_____	_____	_____
7.	Subway, Rail, Other	_____	_____	_____	_____	_____

The availability of different forms of public transit for passenger usage is noted in items 6 and 7. If bus service is available to the passenger terminals, then "Yes" is entered, otherwise a "No" is used in item 6. If subway, rail or other access is available, then that transit mode is noted in item 7, otherwise a "No" is entered.

Passenger Modal Split

8.	Automobile (Includes Rental Car)	_____%
9.	Taxi	_____%
10.	Bus (Includes Hotel Shuttles, Limos)	_____%
11.	Subway, Rail, Other	_____%

This section identifies the breakdown of arrival modes of passengers using the airport. Of concern here are originating passengers who use ground access modes, not connecting or through passengers. The percentage is broken out into automobile, including rental

car (item 8), taxi (item 9), bus including shuttles, and limousines (item 10), and any other ground access mode such as subway, rail, etc. (item 11).

Percentage of People Entering Airport

12. Passengers _____%
13. Visitors, Well Wishers, Greeters _____%
14. Employees _____%

Of all the people entering the airport during a typical day, the percentage of those people who are passengers is entered in item 12. The percentage of visitors, well wishers or greeters is entered in item 13, and the percentage of employees at the airport is entered in item 14.

Vehicle Count

15. Number of Vehicles per Passenger _____

Item 15 is the number of all the vehicles entering the airport during a typical day divided by the number of enplaned originating passengers using the airport during a typical day. Sometimes total vehicles (entering and leaving) and total passengers (enplaning and deplaning) are used. This number is usually, but not always, less than one.

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

The estimated cost of each expansion item noted in Parts 2, 3, and 4 is presented in this section. Many times only a rough estimate of the cost is available, or sometimes no cost data is available. Also, a cost may be provided for one item (say, a terminal) with no breakdown of cost for individual projects such as gates and adjacent roadway. The Part/Line/Column information refers to the part of the data form (Part 2, 3, or 4) which is affected by the expansion project (and similarly for Line/Column). If more than two parts, lines, or columns are affected, then "Various" or "-" is entered. The type of facility refers to items such as terminal, hangar, runway and apron. Increased capacity is square footage, peak hour passengers, aircraft operations, etc. Other items are self explanatory. Included is a brief description of the project. Unless otherwise noted, costs include construction, administration, engineering, site preparation and contingency fees. Following is an example of a typical entry:

3/21/3	Apron Expansion	50,000+ sq ft	1978	$182.6	1975

Apron pavement expansion for handling Gulfstream II type aircraft (project 10A, page 65, 90 of master plan).

A.2 GENERAL AVIATION AIRPORT DATA LIST

This subsection presents the actual data list used for general aviation airports in the survey. An item-by-item explanation follows.

A.2.1 GENERAL AVIATION AIRPORT DATA FORM

Airport Name _____ Code _____
Hub Name _____ Master Plan Status _____
Approximate Distance and Direction to Hub CBD _____
Approximate Distance and Direction to Hub Air Carrier Airport _____
Name of That Airport _____ Number of Commuters _____
Approximate Number of Employees at Airport _____ as of _____

PART 1. DEMAND FORECASTS

		Actual		Forecast		
	Year:	____	____	____	____	____
	Aircraft Operations (000)					
1.	Commuter (including Air Taxi)	____	____	____	____	____
1a.	Air Taxi	____	____	____	____	____
2.	General Aviation	____	____	____	____	____
2a.	Itinerant	____	____	____	____	____
2b.	Local	____	____	____	____	____
3.	Military _____	____	____	____	____	____
4.	Total Aircraft Operations	____	____	____	____	____
5.	Total FAA 1974 Forecasts		____	____	____	____
	Aircraft Movements					
6.	Peak-Day	____	____	____	____	____
7.	Peak-Hour	____	____	____	____	____
	Based Aircraft					
8.	Fixed Wing	____	____	____	____	____
8a.	Single Engine	____	____	____	____	____
8b.	Jets	____	____	____	____	____
8c.	Seaplane	____	____	____	____	____
9.	Rotary Wing	____	____	____	____	____
10.	Total Based Aircraft	____	____	____	____	____

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways

	Direction	Usable Landing Length (ft)	Future Usable Runway Length (ft)	Year Extension To Be Complete	Best Landing Aid	Proposed Landing Aid	Installation Year
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of This Aircraft: AA A B C D E

12. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

Miscellaneous Airside Data

13. FAA Tower _____
14. Hours of Service _____
15. Flight Service Station _____
16. Vortac Station _____
17. Weather Station _____
18. Unicom _____
19. Automatic Terminal Information Service (ATIS) _____
20. Primary Instrument Runway _____
21. Joint Use _____

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____

Airside Capacities (Operations)

22.	Maximum Hourly Capacity (VFR)	_____	_____	_____	_____	_____
23.	Maximum Hourly Capacity (IFR)	_____	_____	_____	_____	_____
24.	Practical Annual Capacity (000)	_____	_____	_____	_____	_____

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
1. Parking Apron Area (000 sq ft)	_____	_____	_____	_____	_____
2. Hangar Area (000 sq ft)	_____	_____	_____	_____	_____
3. T-Hangar Parking Positions	_____	_____	_____	_____	_____
4. Conventional Hangars	_____	_____	_____	_____	_____
5. Terminal Building Area (sq ft)	_____	_____	_____	_____	_____

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
1. Automobile Parking Spaces	_____	_____	_____	_____	_____
2. Access Road Capacity (vehicles/hr)	_____	_____	_____	_____	_____
3. Rental Car Service	_____	_____	_____	_____	_____
4. Bus Access	_____	_____	_____	_____	_____
5. Rail, Subway, Other Access	_____	_____	_____	_____	_____

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

A.2.2 DETAILS OF GENERAL AVIATION AIRPORT DATA FORM

Airport Name _____ Code _____

Hub Name _____

The official airport name (without the word "airport") is placed here, and the standard three symbol airport code is placed under "code." This code is the three letter airport identifier as established in FAA Order 7350.4H (Reference 11). The code is used here to aid in distinguishing airports with the same or similar names and identify airports with more than one name. The hub name is the city near which the airport is located in the list of twenty-five presented in the Table of Contents; it is the hub to which the airport "belongs" for this study.

Master Plan Status _____

The master plan status is the year in which the most recent usable master plan was completed for this airport. An airport layout plan report, if identical in content to a traditional master plan and if used as a planning document by the airport was treated here as a master plan. If the airport has no current master plan, then "None" is entered; if a plan is underway and data from the study was not available to this effort, then "Underway" was entered followed by the expected year of completion, if available. A year followed by "Draft" indicates a plan from which data was taken, but which was not yet formally approved.

Approximate Distance and Direction to Hub CBD _____

The approximate straight-line distance in statute miles to the central business district (CBD) of the city identified in hub name is entered here. The general direction to the CBD from the airport is also entered.

Approximate Distance and Direction to Nearest Major Air Carrier Airport _____
Name of that Airport _____

The approximate straight-line distance in statute miles to the nearest major air carrier airport is entered here. The air carrier airport is always one of the surveyed airports in the list presented in the Table of Contents, and is identified in "Name of that Airport."

The number of commuter air lines is noted here.

Approximate Number of Employees at Airport _____ as of _____

The estimated number of people who work on the airport property in some industry related to the airport is entered here along with the year of the estimate. This number should not be considered precise since the definitions of who to count and what is industry related varies from airport to airport. It is presented to give some indication of the level of airport activity and related man-power.

[Airport Layout Plan]

An illustration of the airport runway configuration, apron layout, and terminal size and location is presented here. Most of the figures are copyright Jeppesen-Sanderson, Inc. and are used with permission. These illustrations are for general information only and are not to be used for navigation purposes. The drawings are accurate to scale but they may not always have the latest airport modifications noted in the data form.

[General Description]

A brief description of the airport, planning status, and special features is presented here. Any unusual or nonstandard entries in the data list are noted here.

PART 1. DEMAND FORECASTS

	Actual	Forecast			
Year:	_____	_____	_____	_____	_____

This part of the airport data list contains the forecasts for aircraft operations, peak aircraft movements, and based aircraft. The years of the forecasts are noted after "Year" at the top of each column; the first column, "Actual," represents data for a year in which actual data are used. The actual year is not always the most recent year for which data are available, and is often the base year used when the forecasts were generated. Thus, 1975, a year which had passed when some of the airport data were collected, may appear as a forecast year, and, hence, those figures may be at variance with what actually happened. Except where specifically noted all forecasts are airport forecasts.

Aircraft Operations (000)

1.	Commuter (Including Air Taxi)	_____	_____	_____	_____	_____
1a.	Air Taxi	_____	_____	_____	_____	_____

The total number of commuter operations (in thousands), including air taxi, is presented in item 1. Air taxi operations (in thousands), if available, are presented in item 1a.

2.	General Aviation	_____	_____	_____	_____	_____
2a.	Itinerant	_____	_____	_____	_____	_____
2b.	Local	_____	_____	_____	_____	_____

The total number of general aviation operations (in thousands) is presented in item 2. This total is broken out into itinerant and local operations in items 2a and 2b. Definitions of general aviation, local and itinerant operations are given in the Glossary.

3.	Military_____	_____	_____	_____	_____	_____

The number of military operations (in thousands) is presented in item 3. The agency which performs the majority of the operations (usually located at the airport) is noted in the space following "Military." If there are no regular military operations at the airport, then no entry is made or "Various" or "None" appears.

PART 1. DEMAND FORECASTS (Continued)

		Actual		Forecast		
4.	Total Aircraft Operations	_____	_____	_____	_____	_____
5.	Total FAA 1974 Forecasts		_____	_____	_____	_____

The total aircraft operations (in thousands) at the airport is noted in item 4. This is the sum of items 1, 2, and 3. The FAA forecast of total operations (in thousands) is presented in item 5, interpolated from the 1974 Terminal Area Forecasts (Reference 9).

Aircraft Movements

6.	Peak-Day	_____	_____	_____	_____	_____
7.	Peak-Hour	_____	_____	_____	_____	_____

The peak (or busy) day aircraft operations are entered in item 6; peak (or busy) hour aircraft operations are entered in item 7. An aircraft operation is treated as an aircraft movement for this study, and it is a takeoff or a landing. More information on peak day/hour definitions is presented in the Glossary.

Based Aircraft

8.	Fixed-Wing	_____	_____	_____	_____	_____
8a.	Single Engine	_____	_____	_____	_____	_____
8b.	Jets	_____	_____	_____	_____	_____
8c.	Seaplane	_____	_____	_____	_____	_____
9.	Rotary Wing	_____	_____	_____	_____	_____
10.	Total Based Aircraft	_____	_____	_____	_____	_____

The general aviation aircraft which are normally kept (based) at the airport are noted in this section. The total number of fixed-wing aircraft is indicated in item 8. Item 8a includes all fixed-wing, single engine aircraft including single engine jets

PART 1. DEMAND FORECASTS (Continued)

(if any). Jets, included in item 8b, are all turbine powered, non-propeller aircraft based at the airport. Seaplanes, identified in 8c, include amphibious as well as sea-only type of aircraft. Since there may be an overlap of categories, items 8a, 8b, and 8c do not necessarily add to item 8. Total rotary wing aircraft (helicopters) are noted in item 9. Item 10 is the total number of aircraft based at the airport and is the sum of items 8 and 9.

PART 2. AIRSIDE FACILITIES AND CAPACITIES

Runways		Usable Landing
	Direction	Length (ft)
1.	_____	_____
2.	_____	_____

The airside facilities and capacities are presented in this part. Runway information is presented first. Runways are described by noting their orientation under "Direction". One strip of pavement has two directions, depending upon the direction of travel of the arriving/departing aircraft using the runway. The usable landing length in feet is noted under "Usable Landing Length (ft)"; this information is taken from Jeppesen-Sandersen, Inc. approach charts. The length shown is the distance on the runway beyond the designated point of landing threshold or the same length as shown in the airport diagram if no such displaced threshold exists. In some cases the airport authority had more current information that that contained in the Jeppesen-Sandersen, Inc. chart. In these cases, the data supplied by the airport authorities were entered. In the case where a new runway is to be constructed in the future, the work "None" is used in this column. If a runway exists but is unusable for some reason (e.g., overlay needed) then 0 is used in this column.

Future Usable Runway Length (ft)	Year Extension to be Complete
_____	_____
_____	_____

For each runway the future runway length is noted as shown above. It is the anticipated length of usable pavement. If no change is planned then "Same" is entered. Changes from the existing usable landing length could be due to runway pavement extension,

removal or addition of a displaced threshold, or the closing of the runway. If a runway is to be closed, the future usable length is shown as "0". Whenever a change between the usable landing length and the future usable runway length appears, the year of the anticipated change is shown in the adjacent column. If no change is anticipated "-" shows the non-applicability of this column. If the year of transition is unknown, the entry is left blank.

Best
Landing
Aid

_____

_____

The best instrument landing aid providing the most precise navigational information or the lowest approach minimums for a straight-in approach to the runway is noted in this column. Radar is not considered to be a part of this instrumentation family for the purposes of this study. Approaches providing only circling minimums are also not listed. These landing aids are ranked in the following order:

1. ILS - Category IIIa (ILS-IIIa)
2. ILS - Category II (ILS-II)
3. ILS - Category I (ILS-I or simply ILS)
4. LOC (Localizer)
5. SDF (Simplified Directional Facility)
6. VOR or VORTAC
7. NDB (Non-Directional Beacon)
8. VFR (Visual Flight Rules - no instrument landing aid)

A definition of each of the above terms is presented in the Glossary.

PART 2. AIRSIDE FACILITIES AND CAPABILITIES (Continued)

	Proposed Landing Aid	Installation Year
	_____	_____
	_____	_____

Any improvements to the landing aids at each runway are noted in these columns together with the year the proposed aid is scheduled to be completely installed.

NOTE: The above information (runway direction, usable landing length, future usable runway length, and best landing aid) is shown for each runway, existing or proposed, at the airport. (Items 1 through 10 of Part 2).

11. Heaviest Aircraft Capable of Using Primary Runway _____

11a. Class of this Aircraft: AA A B C D E

The heaviest aircraft (fully loaded gross takeoff weight) which is capable of using the primary airport runway (see item 20 below) is described in item 11. The class of this aircraft (see item 12 below) is noted in item 11a.

12. Fleet Mix (Percentage) _____ Class AA _____ Class A _____ Class B
_____ Class C _____ Class D _____ Class E

The current (or as of the date of the planning document) mix of aircraft which use the airport is noted here. The aircraft are identified by type (class) from AA, jumbo jets, to E, light twins and single engine, as noted below:*

* The classification of aircraft by types varies widely in different reports. At least three different methods of classification have been identified (References 12, 13, and 14). The one presented here is used most widely by airport planners.

Class AA - Heavy jet aircraft of gross weight in excess of 300,000 pounds such as B-747, DC-10 and L-1011.

Class A - Other large four engine jets such as B-707 and DC-8-10 through 20.

Class B - Current two and three engine jets such as B-727, DC-9, B-737, and most four engine prop transports.

Class C - Medium twin engine aircraft such as F-27, Convair 440, 540 and most business jets.

Class D - Light single and twin engine aircraft such as Aero Commander, Beech Bonanza and Debonair, Beech 50 Twin Bonanza, Beech Queen Air, Beech Travel Air, Cessna Skyknight, de Havilland Dove, Piper Apache, Piper Aztec.

Class E - Light single engine aircraft such as Aeronca Champion, Beech Musketeer, Cessna 140, 150, 170, 180, 210 series, de Havilland Beaver (L-20), Mooney M20.

Miscellaneous Airside Data

13. FAA Tower _____
14. Hours of Service _____
15. Flight Service Station _____
16. Vortac Station _____
17. Weather Station _____
18. Unicom _____
19. Automatic Terminal Information Service (ATIS) _____
20. Primary Instrument Runway _____
21. Joint Use _____

Miscellaneous airport airside data are presented in this section. FAA Tower, Flight Services Station, Vortac, Weather Station, Unicom, and ATIS are all defined in the Glossary; the presence of any of these items on the airport property is indicated by entering a "Yes"; otherwise "No" is entered. The hours during which the airport is normally in operation is noted in item 14 by, for example, an 0800-2000 entry. If the airport is always in operation, then "24 hrs" is entered. The primary instrument runway is the runway with the best landing aid; if all runways are VFR, then the run-

way which is used most (has best wind coverage) is entered. A "Yes" for Joint Use, item 21, implies the existence of agreements between the airport and one or more military agencies whereby the military and civilian agencies share the use and operation of the airport. The particular military agency, if any, is noted in item 3, Part 1.

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____

Airside Capacities (Operations)

22. Maximum Hourly Capacity (VFR) _____ _____ _____ _____ _____

The Maximum Hourly Capacity (VFR) is also referred to as the Practical Hourly Capacity. It is the most commonly used measure of airport capacity. It gives the level of demand (landings and take-offs) at which the average delay for the use of runways becomes equal to four minutes. This is the VFR capacity for the most commonly used runway configuration. Since the most common runway configuration is usually the one that maximizes capacity, VFR capacity is also usually equal to the maximum VFR capacity.

23. Maximum Hourly Capacity (IFR) _____ _____ _____ _____ _____

Item 23, Maximum Hourly Capacity (IFR), is the IFR capacity associated with the most common IFR configuration of the airport. It is usually listed in airport documents simply as IFR capacity.

24. Practical Annual Capacity (000) _____ _____ _____ _____ _____

Practical Annual Capacity or PANCAP is a rough indicator of the total annual number of operations at which an airport begins to exhibit undesirable congestion phenomena. It is derived from the VFR and IFR hourly capacities by taking into account factors such as the traffic mix at the airport and the number of touch-and-go flights. It is not an upper limit on the annual capacity of an airport.

PART 3. TERMINAL FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
1. Parking Apron Area (000 sq ft)	_____	_____	_____	_____	_____
2. Hangar Area (000 sq ft)	_____	_____	_____	_____	_____

The paved area used for parking aircraft, for based and itinerant, is presented in item 1 in thousands of square feet. The total area in thousands of square feet in conventional hangars (including corporate and maintenance hangars) is entered in item 2; the area enclosed by T-hangars is not included in item 2. Sometimes the available hangar or apron space available at a general aviation airport is given in terms of the approximate number of aircraft which can use the space. Reference 16 estimates the space required at an airport for general aviation aircraft as follows:

3240 sq. ft./aircraft - Apron area
3150 sq. ft./aircraft - Hangared
2700 sq. ft./aircraft - Tiedown area

The above numbers were used to estimate items 1 and 2 when the data provided by the airport were in terms of number of aircraft instead of square feet. Thus, these items should be considered as approximate.

3. T-Hangar Parking Positions	_____	_____	_____	_____	_____

A T-hangar is a hangar which is normally used for the storage of a single aircraft; it usually is constructed to allow the aircraft direct easy access to and from the hangar and taxiway area. The number of aircraft parking positions provided by T-hangars is indicated in item 3. One T-hangar "building" may contain one to fifteen T-hangar parking positions.

PART 3. TERMINAL FACILITIES AND CAPACITIES

4. Conventional Hangars _____ _____ _____ _____ _____

The number of conventional hangars (non T-hangars) on the airport is included in item 4.

5. Terminal Building Area (sq ft) _____ _____ _____ _____ _____

The total area of the terminal building (public and private areas) if one exists, is entered here. The terminal building is a building with public access where the commuter carriers, if any, are usually located. It is generally not the fixed base operation (FBO) building.

PART 4. LANDSIDE FACILITIES AND CAPACITIES

	Actual		Forecast		
Year:	_____	_____	_____	_____	_____
1. Automobile Parking Spaces	_____	_____	_____	_____	_____

The total number of automobile parking spaces is entered in item 1 of Part 4. This usually excludes employee and rental car parking, if any; however, when employee spaces are not separable from public, then all spaces are counted.

2. Access Road Capacity (vehicles/hr) _____ _____ _____ _____ _____

The estimated total capacity of the roadway access to the main terminals at the airport is entered in item 3 in terms of vehicles per hour. This is the roadway capacity at the final merging point of the access roads, or the sum of the capacities of independent roadways, such as those entering the airport at different ends of the airport (if independent). When the access capacity was not known sometimes the minimum number of access lanes and maximum vehicle speed were noted.

3. Rental Car Service	_____	_____	_____	_____	_____
4. Bus Access	_____	_____	_____	_____	_____
5. Rail, Subway, Other Access	_____	_____	_____	_____	_____

The availability of rental car service and different forms of mass transit for passenger usage is entered in these items. If bus service is available to the airport users, then "Yes" is entered, otherwise a "No" is used in item 4. If subway, rail or other access is available, then that transit is noted in item 5, otherwise a "No" is entered.

PART 5. EXPANSION COST INFORMATION

Part/Line/ Column	Type of Facility	Increased Capacity	Estimated Completion Date	Estimated Cost ($000)	Year of Cost Estimate

The estimated cost of each expansion item noted in Parts 2, 3, and 4 is presented in this section. Many times only a rough estimate of the cost is available, or sometimes no cost data is available. Also, a cost may be provided for one item (say, a terminal) with no breakdown of cost for individual projects such as gates and adjacent roadway. The Part/Line/Column information refers to the part of the data form (Part 2, 3, or 4) which is affected by the expansion project (and similarly for Line/Column). If more than two parts, lines, or columns are affected, then "Various" or "-" is entered. The type of facility refers to items such as terminal, hangar, runway and apron. Increased capacity is square footage, peak hour passengers, aircraft operations, etc. Other items are self explanatory. Included is a brief description of the project. Unless otherwise noted, costs include construction, administration, engineering, site preparation and contingency fees. Following is an example of a typical entry:

3/21/3	Apron Expansion	50,000+ sq ft	1978	$182.6	1975

Apron pavement expansion for handling Gulfstream II type aircraft (project 10A, page 65, 90 of master plan).

APPENDIX B

GENERAL AVIATION OPERATIONAL ACTIVITY

During the course of interviewing the airport operators and planners, additional information was sought regarding the general aviation operational activity. Since this information is not directly related to airport capacity, but is nevertheless of interest in airport activity studies, it is included here as an appendix. This information is not recorded by the airport operator or FAA tower personnel. Thus, the data supplied here are based upon the estimates of airport personnel who are familiar with the activity at the airport. However, most airports were reluctant to even estimate the types of general aviation operational activity. This was true especially with the major air carrier airports, where the personnel interviewed were, in general, less familiar with the types of general aviation activity. Only 40 of the 104 airports surveyed were willing to estimate the data requested.

A list of the particular data sought is presented in Figure B-1. The general aviation activity at an airport was divided into two classes as shown in Figure B-1: type of aircraft and user categories. The aircraft types which use the airport for general aviation were divided into piston/turbine, single/multi-engine piston, and rotary wing. No distinction is made by aircraft weight. The numbers sought were the general aviation aircraft of each type which used the airport as a percentage of total general aviation operations. This information is different than the percentage of based aircraft by type, since (1) the based aircraft do not each use the airport by the same amount, and (2) this excludes the types of itinerant aircraft which use the airport.

The percentages of various general aviation users at the airport were also sought. The user categories considered in this survey are illustrated in Figure B-1 and are described here:

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name _____ Code _____

Hub Name _____

Aircraft Types			User Categories		
1. Single Engine Piston	___	Piston ___	1. Personal (Recreational)	___	
2. Multi-Engine Piston	___		2. Personal (Business)	___	Business ___
3. Turboprop	___	Turbine ___	3. Corporate	___	
4. Turbojet	___		4. Instructional	___	
5. Rotary Wing	___		5. Other	___	

Figure B-1. General Aviation Operational Activity (Percentage of Operations).

Personal (Recreational)

Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire is considered here as recreational usage. This includes maintenance of pilot proficiency.

Personal (Business)

Any use of an aircraft not for compensation or hire by an individual for the purposes of transportation required by a business in which he is engaged is considered as business usage. Note that this implies it is the pilot who is on business.

Corporate

Corporate usage is any use of an aircraft by a corporation, company, or other organization for the purpose of transporting its employees and/or property not for

compensation or hire and employing professional pilots for the operation of the aircraft. In this case the pilots are not the "businessmen."

Instructional

Instructional usage is any use of an aircraft for the purposes of formal instruction with the maneuvers on the particular flight(s) specified by the flight instructor.

Other

Any use of an aircraft for general aviation not accounted for by the previous user categories is included here.

The following pages in this appendix list the data collected. Since only about 40 percent of the airports supplied at least part of this information, the airports responding are listed alphabetically by airport code. Table B-1 lists the airports and the page on which the data are included. Table B-2 provides cross reference of responding airports by hub name.

TABLE B - 1

AIRPORTS RESPONDING WITH GENERAL AVIATION OPERATIONAL ACTIVITY

Airport Code	Airport Name	Page No.
ADS	Addison	B-6
ATL	Hartsfield International	B-6
BED	L. G. Hanscom Field	B-7
BFI	Boeing Field/King County Int'l.	B-7
BVY	Beverly Municipal	B-8
CCR	Buchanan Field	B-8
CGF	Cuyahoga County	B-9
DET	Detroit City	B-9
DFW	Dallas-Fort Worth Regional	B-10
FLL	Fort Lauderdale-Hollywood Int'l.	B-10
FRG	Republic	B-11
FTW	Meacham Field	B-11
FTY	Charlie Brown-Fulton County	B-12
HOU	William P. Hobby	B-12
HPN	Westchester County	B-13
HWO	North Perry	B-13
ILG	Greater Wilmington	B-14
ISP	Islip MacArthur	B-14
KCK	Fairfax Municipal	B-15
LBE	Latrobe	B-15
MCI	Kansas City International	B-16
MIA	Miami International	B-16
MMU	Morristown Municipal	B-17
MSY	Moisant Field	B-17
MTN	Martin State	B-18
NEW	Lakefront	B-18
OPF	Opa Locka	B-19
OWD	Norwood Memorial	B-19
PAE	Snohomish County	B-20
PDK	DeKalb Peachtree	B-20
PTK	Oakland-Pontiac	B-21
RNT	Renton Municipal	B-21
SEA	Seattle-Tacoma International	B-22
SIG	Isla Grande	B-22
SJU	San Juan International	B-23
STL	St. Louis International	B-23
TMB	New Tamiami	B-24
W10	Davis Field	B-24
YIP	Willow Run	B-25
2G5	Grosse Isle Municipal	B-25

TABLE B - 2

AIRPORTS RESPONDING WITH GENERAL
AVIATION OPERATIONAL ACTIVITY - BY HUB

Hub	Airport Code	Airport Name	Page No.
Atlanta	ATL	Hartsfield International	B - 6
	FTY	Charlie Brown-Fulton County	B - 12
	PDK	DeKalb-Peachtree	B - 20
Boston	BED	L. G. Hanscom Field	B - 7
	BVY	Beverly Municipal	B - 8
	OWD	Norwood Memorial	B - 19
Cleveland	CGF	Cuyahoga County	B - 9
Dallas	ADS	Addison	B - 6
	DFW	Dallas-Fort Worth Regional	B - 10
	FTW	Meacham Field	B - 11
Detroit	DET	Detroit City	B - 9
	PTK	Oakland-Pontiac	B - 21
	YIP	Willow Run	B - 25
	2G5	Grosse Isle Municipal	B - 25
Houston	HOU	William P. Hobby	B - 12
Kansas City	KCK	Fairfax Municipal	B - 15
	MCI	Kansas City International	B - 16
Miami	FLL	Fort Lauderdale-Hollywood	B - 10
	HWO	North Perry	B - 13
	MIA	Miami International	B - 16
	OPF	Opa Locka	B - 19
	TMB	New Tamiami	B - 24
New Orleans	MSY	Moisant Field	B - 17
	NEW	Lakefront	B - 18
New York	FRG	Republic	B - 11
	HPN	Westchester County	B - 13
	ISP	Islip MacArthur	B - 14
	MMU	Morristown Municipal	B - 17
Philadelphia	ILG	Greater Wilmington	B - 14
Pittsburgh	LBE	Latrobe	B - 15
St. Louis	STL	St. Louis International	B - 23
San Francisco	CCR	Buchanan Field	B - 8
San Juan	SIG	Isla Grande	B - 22
	SJU	San Juan International	B - 23
Seattle	BFI	Boeing Field/King County Int'l.	B - 7
	PAE	Snohomish County	B - 20
	RNT	Renton Municipal	B - 21
	SEA	Seattle-Tacoma International	B - 22
Washington, DC	MTN	Martin State	B - 18
	W10	Davis Field	B - 24

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Addison Code ADS

Hub Name Dallas

Aircraft Types			User Categories		
1. Single Engine Piston	40	Piston -	1. Personal (Recreational)	15	
2. Multi-Engine Piston	-		2. Personal (Business)	65	Business 80
3. Turboprop	-	Turbine -	3. Corporate	15	
4. Turbojet	-		4. Instructional	5	
5. Rotary Wing	0		5. Other	0	

Airport Name Hartsfield International Code ATL

Hub Name Atlanta

Aircraft Types			User Categories		
1. Single Engine Piston	13	Piston 56	1. Personal (Recreational)		
2. Multi-Engine Piston	43		2. Personal (Business)		Business
3. Turboprop	-	Turbine 44	3. Corporate		
4. Turbojet	-		4. Instructional		
5. Rotary Wing	0		5. Other		

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name L. G. Hanscom Field Code BED

Hub Name Boston

Aircraft Types			User Categories		
1. Single Engine Piston	91	Piston 93	1. Personal (Recreational)	12	
2. Multi-Engine Piston	2		2. Personal (Business)	-	Business 23
3. Turboprop	1	Turbine 4	3. Corporate	-	
4. Turbojet	3		4. Instructional	65	
5. Rotary Wing	3		5. Other	0	

Airport Name Boeing Field/King County International Code BFI

Hub Name Seattle

Aircraft Types			User Categories		
1. Single Engine Piston		Piston	1. Personal (Recreational)	42	
2. Multi-Engine Piston			2. Personal (Business)		Business 23
3. Turboprop		Turbine	3. Corporate		
4. Turbojet			4. Instructional	28	
5. Rotary Wing			5. Other	7	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Beverly Municipal Code BVY

Hub Name Boston

Aircraft Types			User Categories		
1. Single Engine Piston		Piston	1. Personal (Recreational)	10	
2. Multi-Engine Piston			2. Personal (Business)	-	Business 19
3. Turboprop		Turbine	3. Corporate	-	
4. Turbojet			4. Instructional	60	
5. Rotary Wing			5. Other	10	

Airport Name Buchanan Field Code CCR

Hub Name San Francisco

Aircraft Types			User Categories		
1. Single Engine Piston	86	Piston 96	1. Personal (Recreational)	38	
2. Multi-Engine Piston	10		2. Personal (Business)	20	Business 55
3. Turboprop	2	Turbine 3	3. Corporate	35	
4. Turbojet	1		4. Instructional	5	
5. Rotary Wing	1		5. Other	2	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Cuyahoga County Code CGF

Hub Name Cleveland

Aircraft Types			User Categories		
1. Single Engine Piston	67	Piston 88	1. Personal (Recreational)	19	
2. Multi-Engine Piston	21		2. Personal (Business)	-	Business 30
3. Turboprop	-	Turbine 12	3. Corporate	-	
4. Turbojet	-		4. Instructional	17	
5. Rotary Wing	0		5. Other	4	

Airport Name Detroit City Code DET

Hub Name Detroit

Aircraft Types			User Categories		
1. Single Engine Piston	13	Piston 66	1. Personal (Recreational)	-	
2. Multi-Engine Piston	53		2. Personal (Business)	0	Business 70
3. Turboprop	-	Turbine 34	3. Corporate	70	
4. Turbojet	-		4. Instructional	-	
5. Rotary Wing	0		5. Other	-	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Dallas-Fort Worth Regional Code DFW

Hub Name Dallas

Aircraft Types			User Categories		
1. Single Engine Piston		Piston	1. Personal (Recreational)	1	
2. Multi-Engine Piston			2. Personal (Business)	4	Business 99
3. Turboprop		Turbine	3. Corporate	95	
4. Turbojet			4. Instructional	0	
5. Rotary Wing			5. Other	0	

Airport Name Fort Lauderdale-Hollywood International Code FLL

Hub Name Miami

Aircraft Types			User Categories		
1. Single Engine Piston	64	Piston 96	1. Personal (Recreational)	40	
2. Multi-Engine Piston	32		2. Personal (Business)	-	Business 60
3. Turboprop	2	Turbine 3	3. Corporate	-	
4. Turbojet	1		4. Instructional	0	
5. Rotary Wing	1		5. Other	0	

GENERAL AVIATION OPERATIONAL ACTIVITY

(Percentage of Operations)

Airport Name Republic Code FRG

Hub Name New York

Aircraft Types			User Categories		
1. Single Engine Piston	75	Piston -	1. Personal (Recreational)		
2. Multi-Engine Piston			2. Personal (Business)		Business
3. Turboprop	25	Turbine -	3. Corporate		
4. Turbojet			4. Instructional		
5. Rotary Wing			5. Other		

Airport Name Meacham Field Code FTW

Hub Name Dallas

Aircraft Types			User Categories		
1. Single Engine Piston	56	Piston -	1. Personal (Recreational)	20	
2. Multi-Engine Piston	-		2. Personal (Business)	-	Business 50
3. Turboprop	-	Turbine -	3. Corporate	-	
4. Turbojet	-		4. Instructional	30	
5. Rotary Wing	3		5. Other	0	

GENERAL AVIATION OPERATIONAL ACTIVITY

(Percentage of Operations)

Airport Name Charlie Brown-Fulton County Code FTY

Hub Name Atlanta

Aircraft Types			User Categories		
1. Single Engine Piston	-	Piston 66	1. Personal (Recreational)	5	
2. Multi-Engine Piston	-		2. Personal (Business)	-	Business 75
3. Turboprop	-	Turbine 33	3. Corporate	-	
4. Turbojet	-		4. Instructional	20	
5. Rotary Wing	1		5. Other	0	

Airport Name William P. Hobby Code HOU

Hub Name Houston

Aircraft Types			User Categories		
1. Single Engine Piston	50	Piston 74	1. Personal (Recreational)	40	
2. Multi-Engine Piston	24		2. Personal (Business)		Business 33
3. Turboprop	11	Turbine 25	3. Corporate		
4. Turbojet	14		4. Instructional	13	
5. Rotary Wing	1		5. Other	14	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Westchester County Code HPN

Hub Name New York

Aircraft Types			User Categories		
1. Single Engine Piston		Piston	1. Personal (Recreational)		
2. Multi-Engine Piston			2. Personal (Business)		Business -
3. Turboprop		Turbine	3. Corporate	97	
4. Turbojet			4. Instructional		
5. Rotary Wing			5. Other	3	

Airport Name North Perry Code HWO

Hub Name Miami

Aircraft Types			User Categories		
1. Single Engine Piston	81	Piston 94	1. Personal (Recreational)		
2. Multi-Engine Piston	13		2. Personal (Business)		Business
3. Turboprop	0	Turbine 0	3. Corporate		
4. Turbojet	0		4. Instructional		
5. Rotary Wing	6		5. Other		

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Greater Wilmington Code ILG

Hub Name Philadelphia

Aircraft Types				User Categories			
1. Single Engine Piston	-	Piston	35	1. Personal (Recreational)	20-25		
2. Multi-Engine Piston	-			2. Personal (Business)	-	Business	65
3. Turboprop	-	Turbine	60	3. Corporate	-		
4. Turbojet	-			4. Instructional	10-15		
5. Rotary Wing	5			5. Other	0		

Airport Name Islip MacArthur Code ISP

Hub Name New York

Aircraft Types				User Categories			
1. Single Engine Piston	57	Piston	66	1. Personal (Recreational)			
2. Multi-Engine Piston	9			2. Personal (Business)		Business	
3. Turboprop	12	Turbine	24	3. Corporate			
4. Turbojet	12			4. Instructional			
5. Rotary Wing	10			5. Other			

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Fairfax Municipal Code KCK

Hub Name Kansas

Aircraft Types			User Categories		
1. Single Engine Piston	70	Piston 80	1. Personal (Recreational)	27	
2. Multi-Engine Piston	10		2. Personal (Business)	-	Business 38
3. Turboprop	10	Turbine 20	3. Corporate	-	
4. Turbojet	10		4. Instructional	30	
5. Rotary Wing	0		5. Other	5	

Airport Name Latrobe Code LBE

Hub Name Pittsburgh

Aircraft Types			User Categories		
1. Single Engine Piston	-	Piston 70	1. Personal (Recreational)	20	
2. Multi-Engine Piston	-		2. Personal (Business)	-	Business 50
3. Turboprop	-	Turbine 30	3. Corporate	-	
4. Turbojet	-		4. Instructional	10	
5. Rotary Wing	0		5. Other	20	

GENERAL AVIATION OPERATIONAL ACTIVITY

(Percentage of Operations)

Airport Name Kansas City International Code MCI

Hub Name Kansas City

Aircraft Types			User Categories		
1. Single Engine Piston	50	Piston 75	1. Personal (Recreational)		
2. Multi-Engine Piston	25		2. Personal (Business)		Business
3. Turboprop	25	Turbine 25	3. Corporate		
4. Turbojet	0		4. Instructional		
5. Rotary Wing	0		5. Other		

Airport Name Miami International Code MIA

Hub Name Miami

Aircraft Types			User Categories		
1. Single Engine Piston	3	Piston 91	1. Personal (Recreational)		
2. Multi-Engine Piston	89		2. Personal (Business)		Business
3. Turboprop	3	Turbine 9	3. Corporate		
4. Turbojet	6		4. Instructional		
5. Rotary Wing	0		5. Other		

GENERAL AVIATION OPERATIONAL ACTIVITY

(Percentage of Operations)

Airport Name Morristown Municipal Code MMU

Hub Name New York

Aircraft Types			User Categories		
1. Single Engine Piston		Piston	1. Personal (Recreational)	25	
2. Multi-Engine Piston			2. Personal (Business)	-	Business 75
3. Turboprop		Turbine	3. Corporate	-	
4. Turbojet			4. Instructional	0	
5. Rotary Wing			5. Other	0	

Airport Name Moisant Field Code MSY

Hub Name New Orleans

Aircraft Types			User Categories		
1. Single Engine Piston	10	Piston 40	1. Personal (Recreational)	10	
2. Multi-Engine Piston	30		2. Personal (Business)	-	Business 45
3. Turboprop	50	Turbine 60	3. Corporate	-	
4. Turbojet	10		4. Instructional	0	
5. Rotary Wing	0		5. Other	45	

GENERAL AVIATION OPERATIONAL ACTIVITY

(Percentage of Operations)

Airport Name Martin State Code MTN

Hub Name Washington

Aircraft Types			User Categories		
1. Single Engine Piston		Piston	1. Personal (Recreational)	35	
2. Multi-Engine Piston			2. Personal (Business)	-	Business 25
3. Turboprop		Turbine	3. Corporate	-	
4. Turbojet			4. Instructional	40	
5. Rotary Wing			5. Other	0	

Airport Name Lakefront Code NEW

Hub Name New Orleans

Aircraft Types			User Categories		
1. Single Engine Piston	-	Piston 69	1. Personal (Recreational)	65	
2. Multi-Engine Piston	-		2. Personal (Business)	-	Business 35
3. Turboprop	-	Turbine 30	3. Corporate	-	
4. Turbojet	-		4. Instructional	0	
5. Rotary Wing	1		5. Other	0	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Opa Locka Code OPF

Hub Name Miami

Aircraft Types			User Categories		
1. Single Engine Piston	75	Piston 95	1. Personal (Recreational)		
2. Multi-Engine Piston	20		2. Personal (Business)		Business
3. Turboprop	2	Turbine 4	3. Corporate		
4. Turbojet	2		4. Instructional		
5. Rotary Wing	1		5. Other		

Airport Name Norwood Memorial Code OWD

Hub Name Boston

Aircraft Types			User Categories		
1. Single Engine Piston	-	Piston 98	1. Personal (Recreational)	22	
2. Multi-Engine Piston	-		2. Personal (Business)	-	Business 27
3. Turboprop	-	Turbine 2	3. Corporate	-	
4. Turbojet	-		4. Instructional	40	
5. Rotary Wing	0		5. Other	11	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Snohomish County Code PAE

Hub Name Seattle

Aircraft Types			User Categories		
1. Single Engine Piston	-	Piston 90	1. Personal (Recreational)		
2. Multi-Engine Piston	-		2. Personal (Business)		Business
3. Turboprop	-	Turbine 10	3. Corporate		
4. Turbojet	-		4. Instructional		
5. Rotary Wing	0		5. Other		

Airport Name DeKalb-Peachtree Code PDK

Hub Name Atlanta

Aircraft Types			User Categories		
1. Single Engine Piston	67.8	Piston 92.6	1. Personal (Recreational)	26	
2. Multi-Engine Piston	24.8		2. Personal (Business)	-	Business 62
3. Turboprop	4.2	Turbine 5.0	3. Corporate	-	
4. Turbojet	0.8		4. Instructional	12	
5. Rotary Wing	2.4		5. Other	0	

GENERAL AVIATION OPERATIONAL ACTIVITY

(Percentage of Operations)

Airport Name Oakland-Pontiac Code PTK

Hub Name Detroit

Aircraft Types			User Categories		
1. Single Engine Piston	80	Piston 95	1. Personal (Recreational)		
2. Multi-Engine Piston	15		2. Personal (Business)		Business
3. Turboprop	-	Turbine 5	3. Corporate		
4. Turbojet	-		4. Instructional		
5. Rotary Wing	0		5. Other		

Airport Name Renton Municipal Code RNT

Hub Name Seattle

Aircraft Types			User Categories		
1. Single Engine Piston	87.7	Piston -	1. Personal (Recreational)	54	
2. Multi-Engine Piston			2. Personal (Business)	-	Business 18
3. Turboprop	11.8	Turbine -	3. Corporate	-	
4. Turbojet			4. Instructional	25	
5. Rotary Wing	0.5		5. Other	3	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name Seattle-Tacoma International Code SEA

Hub Name Seattle

Aircraft Types				User Categories			
1. Single Engine Piston		Piston		1. Personal (Recreational)	10		
2. Multi-Engine Piston				2. Personal (Business)	-	Business	90
3. Turboprop		Turbine		3. Corporate	-		
4. Turbojet				4. Instructional	0		
5. Rotary Wing				5. Other	0		

Airport Name Isla Grande Code SIG

Hub Name San Juan

Aircraft Types				User Categories			
1. Single Engine Piston	52	Piston	85	1. Personal (Recreational)			
2. Multi-Engine Piston	33			2. Personal (Business)		Business	
3. Turboprop	0	Turbine	0	3. Corporate			
4. Turbojet	0			4. Instructional			
5. Rotary Wing	15			5. Other			

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name San Juan International Code SJU

Hub Name San Juan

Aircraft Types			User Categories		
1. Single Engine Piston	9	Piston 91	1. Personal (Recreational)		
2. Multi-Engine Piston	82		2. Personal (Business)		Business
3. Turboprop	3	Turbine 6	3. Corporate		
4. Turbojet	3		4. Instructional		
5. Rotary Wing	3		5. Other		

Airport Name St. Louis International Code STL

Hub Name St. Louis

Aircraft Types			User Categories		
1. Single Engine Piston		Piston	1. Personal (Recreational)	35	
2. Multi-Engine Piston			2. Personal (Business)	17	Business 45
3. Turboprop		Turbine	3. Corporate	28	
4. Turbojet			4. Instructional	8	
5. Rotary Wing			5. Other	12	

GENERAL AVIATION OPERATIONAL ACTIVITY
(Percentage of Operations)

Airport Name New Tamiami Code TMB

Hub Name Miami

Aircraft Types			User Categories		
1. Single Engine Piston	85	Piston 99	1. Personal (Recreational)		
2. Multi-Engine Piston	14		2. Personal (Business)		Business
3. Turboprop	0	Turbine 0	3. Corporate		
4. Turbojet	0		4. Instructional		
5. Rotary Wing	1		5. Other		

Airport Name Davis Field Code W10

Hub Name Washington

Aircraft Types			User Categories		
1. Single Engine Piston	80	Piston 100	1. Personal (Recreational)	60-65	
2. Multi-Engine Piston	20		2. Personal (Business)	-	Business 20
3. Turboprop	-	Turbine 0	3. Corporate	-	
4. Turbojet	-		4. Instructional	20-25	
5. Rotary Wing	0		5. Other	0	

GENERAL AVIATION OPERATIONAL ACTIVITY

(Percentage of Operations)

Airport Name Willow Run Code YIP

Hub Name Detroit

Aircraft Types			User Categories		
1. Single Engine Piston	-	Piston 73	1. Personal (Recreational)		
2. Multi-Engine Piston	-		2. Personal (Business)		Business
3. Turboprop	17	Turbine 27	3. Corporate		
4. Turbojet	10		4. Instructional		
5. Rotary Wing	0		5. Other		

Airport Name Grosse Isle Code 2G5

Hub Name Detroit

Aircraft Types			User Categories		
1. Single Engine Piston	92	Piston	1. Personal (Recreational)	45	
2. Multi-Engine Piston	6		2. Personal (Business)	0	Business 10
3. Turboprop	0	Turbine	3. Corporate	10	
4. Turbojet	0		4. Instructional	10	
5. Rotary Wing	2		5. Other	35	

APPENDIX C

AIRPORT DATA SOURCES

The sources of data are of primary concern in any data collection study. The survey technique discussed in detail in Section 2 identifies two major sources of data: personnel contacts and airport documents. In this appendix the specific sources of data for each airport are listed. First, the personnel contacted from both the FAA regional and district offices and the airports are listed by airport with their addresses and telephone numbers. Then each of the airport documents which was reviewed is noted, including documents for the state or regional airport system.

C.1 AIRPORT CONTACTS

In this section the names, addresses and phone numbers of personnel contacted for airport planning information are listed. First, the FAA personnel from the regional and district offices who supplied information or assistance are noted. The FAA regional offices were contacted for general information on airports in their region, for an overview of state or system airport planning, and to determine the appropriate airport planning agencies and personnel.

The personnel contacted at each of the airports is then listed. This identifies all personnel who were contacted by letter, telephone, or visit. The airport hub is noted along with the FAA region in which it is located. The airports contacted in each hub are then listed together with the names, addresses, and phone numbers of the personnel. In many cases one agency (city or port authority) operated more than one airport in the hub. For these cases, the airports are listed together, followed by the personnel contacted.

FAA REGIONAL OFFICE CONTACTS

EASTERN REGION

Carl Steinhauer, Planning Officer (212) 995-3744

Federal Aviation Administration
Federal Building, Room 329
JFK International Airport
Jamaica, New York 11430

Louis P. Derose, Chief Airports District Office (212) 995-9528
Otto N. Suriani, Chief, Planning Section (212) 995-9528

Federal Aviation Administration
Colonial Building
181 South Franklin Avenue
Valley Stream, New York 11581

GREAT LAKES REGION

Carl Johnson, Airport Planning Staff (312) 694-4500 Ext. 2205
James Popp, Airport Planning Branch (312) 694-4500 Ext. 2271
Louis Yates, Chicago District Office (312) 694-4500 Ext. 3335
Al Slingo, Chicago District Office (312) 694-4500 Ext. 3335

Federal Aviation Administration
2300 E. Devon Avenue
Des Plaines, Illinois 60018

NEW ENGLAND REGION

Vince Scarano, Chief, Airports Planning Branch (617) 273-7233

Federal Aviation Administration
New England Region
12 New England Executive Park
Burlington, Massachusetts 01803

NORTHWESTERN REGION

George Buley, Chief, Airports Planning Branch (206) 767-2633
Walter Stock, Planning Branch (206) 767-2633

Federal Aviation Administration
FAA Building, Boeing Field
Seattle, Washington 98108

PACIFIC REGION

Val Rowe, Airport Planning Staff (808) 955-0295
Herman Bliss, Chief, Airport Planning Branch (808) 955-0295
George Hayama, Airport Planning Branch (808) 955-0295

Federal Aviation Administration
Room 808, 1833 Kalakaua Avenue
Honolulu, Hawaii 96815

SOUTHERN REGION

Ben Frazier, Airport Planning Staff (404) 526-7597
Joe Bryan, Airport Planning Branch (404) 526-7224
Charles Blair, Airport Planning Branch (404) 526-7224

Federal Aviation Administration
3400 Whipple Street
East Point, Georgia 30344

SOUTHWEST REGION

W. N. Dale, Chief, Houston Airports District Office (713) 643-0661
William P. Hobby, Houston Airports District Office (713) 643-0661
Stan Lou, Chief, Planning Section, Houston Airports District Office (713) 643-0661

Federal Aviation Administration
Administration Building, Room 225
8800 Paul B. Koonce Drive
Houston, Texas 77017

Bobby Boswell, Planning Coordinator, Fort Worth Airports District Office (817) 524-4911 Ext. 235
Roland M. Lewis, Chief, Airports Planning Branch (817) 624-4911 Ext. 480

FAA SW Regional Office
4400 Blue Mound Road
Fort Worth, Texas 76131

WESTERN REGION

Bruce Chamber, Airport Planning Staff (213) 536-6231
Ben Demps, Jr., Deputy, Airport Planning Branch (213) 536-6250
Robert Bloom, Airport Planning Branch (213) 536-6250
Russ Hathaway, Airport Planning Branch (213) 536-6250

Federal Aviation Administration
15000 Aviation Blvd.
Lawndale, California 90261

WESTERN REGION (Continued)

Charles Erhard, III, Planning Office (415) 692-2441 Ext. 281

Federal Aviation Administration
Airports District Office
831 Mitten Road
Burlingame, California 94010

Gerald M. Dallas, Chief, Airports District Office (213) 536-6581
Harry F. Hunt, Senior Airports Planner (213) 536-6581

Federal Aviation Administration
Airports District Office, LAX-600
5885 West Imperial Highway
Los Angeles, California 90045

ROCKY MOUNTAIN REGION

Nicholas J. Xidis, Acting Chief, Regional Planning Staff (303) 837-3147

FAA Rocky Mountain Regional Office
10455 East 25th Avenue
Aurora, Colorado 80010

CENTRAL REGION

Lloyd Gilworth, Airport Division (816) 374-2181

FAA Central Regional Office
601 East 12th Street
Kansas City, Missouri 64106

AD-A041 435 AEROSPACE SYSTEMS INC BURLINGTON MASS F/G 1/5
REPORT ON AIRPORT CAPACITY: LARGE HUB AIRPORTS IN THE UNITED ST--ETC(U)
MAY 77 D E GENTRY, J D HOWELL, N K TANEJA

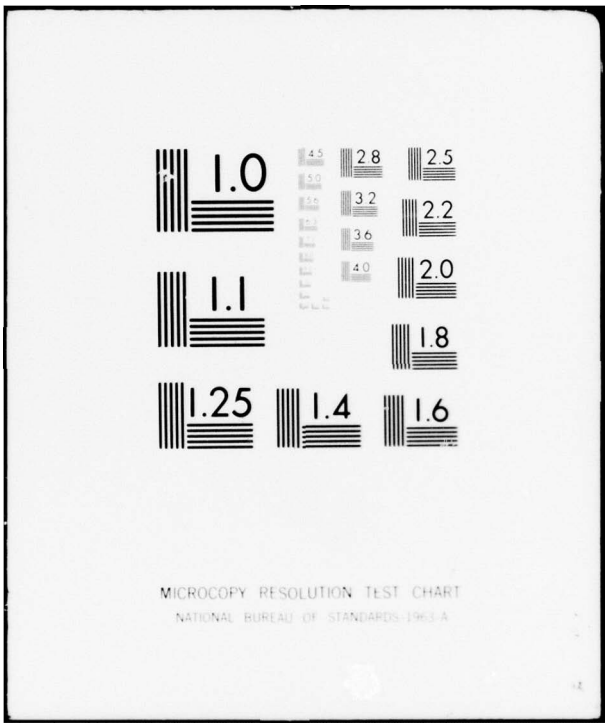
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AIRPORT CONTACTS

ATLANTA (Southern Region)

The William B. Hartsfield Atlanta International (ATL)

Grady H. Ridgeway, Jr., Airport Director (404) 766-2772
Maxwell W. Walker, Airport Planning (404) 766-2772
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City of Atlanta, Department of Aviation
Hartsfield Atlanta International Airport
Atlanta, Georgia 30320

Charlie Brown-Fulton County (FTY)

W. E. Phillips, Director of Aviation (404) 691-3616

Room 204, Terminal Building
3999 Gordon Road, N.W.
Atlanta, Georgia 30336

Dekalb-Peachtree (PDK)

H. F. Manget, Jr., Airport Manager (404) 457-7236

Dekalb Peachtree Airport
Atlanta, Georgia 30341

BOSTON (New England Region)

Laurence G. Hanscom Field (BED)

Frank Hidinger, Airport Manager (617) 274-7200

L. G. Hanscom Field
Bedford, Massachusetts 02208

General Edward Lawrence Logan International (BOS)

Richard E. Mooney, Director of Aviation (617) 482-2930
Albert Bratt, Research and Analysis (617) 482-2930

Massachusetts Port Authority
99 High Street
Boston, Massachusetts 02110

Beverly Municipal (BVY)

Theodore Perrotti, Airport Manager (617) 922-4280

Beverly Municipal Airport
Beverly, Massachusetts 01915

BOSTON (Continued)

Norwood Memorial (OWD)

Arnold Stymest, Airport Manager (617) 762-4750

Norwood Memorial Airport
Norwood, Massachusetts 02062

CHICAGO (Great Lakes Region)

Merrill C. Meigs Field (CGX)

Kenneth W. Course, Airport Manager (312) 744-4787

Merrill C. Meigs Field
15th and Lake Front
Chicago, Illinois 60605

Du-Page County (DPA)

Charles E. Anesi, Airport Manager (312) 584-2211

Du-Page County Airport
Route 64
West Chicago, Illinois 60185

Gary Municipal (GYY)

W. Mitchell, Airport Manager (219) 944-6545

Gary Municipal Airport
Gary, Indiana 46406

Chicago Midway (MDW)

M. Berry, Airport Manager (312) 767-0500

Chicago Midway Airport
5700 South Cicero
Chicago, Illinois 60638

O'Hare International (ORD)

William E. Downes, Jr., Commissioner of Aviation (312) 744-6886
Paul D. Shaver, Chief of Planning (312) 744-6886
John Celmer, Chief of Planning (312) 774-6886

Department of Aviation
Room 1111 City Hall
121 North LaSalle Street
Chicago, Illinois 60602

Pal-Waukee (PWK)

G. J. Priester, Airport Manager (312) 775-3885

Pal-Waukee Airport
Wheeling, Illinois 60090

CLEVELAND (Great Lakes Region)

Burke Lakefront (BKL)
Cleveland Hopkins International (CLE)

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Morgan Lauer, Deputy Commissioner (216) 265-6070

Cleveland Hopkins International Airport
Cleveland, Ohio 44104

Nick Bogas, Deputy Director (216) 781-6111

Burke Lakefront Airport
1501 N. Marginal Drive
Cleveland, Ohio 44114

Cecil Stuart, Consultant (216) 491-9300

Richard L. Bowen and Associates, Inc.
Shaker Heights, Ohio 44120

Cuyahoga County (CGF)

Robert D. Shea, Director of Aviation (216) 261-1066
Ladi A. Rozehnal, Airport Manager (216) 261-1066

Cuyahoga County Airport
355 Richmond Road
Cleveland, Ohio 44143

DALLAS/FORT WORTH (Southwest Region)

Addison (ADS)

M. Kilgore, Airport Manager (214) 239-3761

Addison Airport
Addison, Texas 75001

Dallas Love Field (DAL)
Redbird (RDB)

M. Howard Megredy, Director of Aviation (214) 352-2663

City of Dallas
Dallas Love Field
Dallas, Texas 75235

Dallas/Fort Worth Regional (DFW)

Ernest E. Dean, Executive Director (214) 574-6720
Michael Sganga, Director of Planning (214) 574-3132

P. O. Drawer DFW
Dallas/Fort Worth Airport, Texas 75261

DALLAS/FORT WORTH (Continued)

Meacham Field (FTW)

Barry Hall, Airport Manager (817) 624-1127

Meacham Field
Fort Worth, Texas 76106

DENVER (Rocky Mountain Region)

Arapahoe County (APA)

George Stroebel, Airport Manager (303) 794-9211

Arapahoe County Airport
5606 S. Court Place
Littleton, Colorado 80120

Jeffco (BJC)

David C. Gordon, Airport Manager (303) 466-2314

Jeffco Airport
Broomfield, Colorado 80020

Stapleton International (DEN)

Robert S. Michael, Director of Aviation (303) 398-3844

Stapleton International Airport
Denver, Colorado 80207

DETROIT (Great Lakes Region)

Detroit City (DET)

Robert R. Denison, Airport Operations Manager (313) 224-1300

Airport Department
Detroit City Airport
11499 Conner Avenue
Detroit, Michigan 48213

Detroit Metropolitan Wayne County (DTW)

William Sutherland, Assistant Director of Transportation (313) 224-7612
Lee Martilla, Planning Department (313) 224-7616

Board of Wayne County Road Commissioners
415 Clifford Street
Detroit, Michigan 48226

DETROIT (Continued)

Oakland-Pontiac (PTK)

J. David Vanderveen, Airport Director (313) 666-3900

Main Terminal Building
Oakland Pontiac Airport
6500 Highland Road
Pontiac, Michigan 48054

Toledo Express (TOL)

Ralph M. Hannon, Airport Manager (419) 865-2351

Toledo-Lucas County Port Authority
241 Superior Street
Toledo, Ohio 43604

Willow Run (YIP)

R. E. Pangborn, Airport Manager (313) 482-2943
Gerald King, Assistant Manager (313) 482-2943

Willow Run Airport
Yipsilanti, Michigan 48197

Grosse Isle Municipal (2G5)

Bud Quinn, Airport Manager (313) 675-0155

Grosse Isle Airport
9505 Groh Road
Grosse Isle, Michigan 48138

HONOLULU (Pacific Region)

Honolulu International (HNL)

Owen Miyamoto, Chief, Airports Division (808) 847-9432

Honolulu International
Honolulu, Hawaii 96819

HOUSTON (Southwest Region)

William P. Hobby Airport (HOU)

Paul Norman, Assistant Manager (713) 643-4311

William P. Hobby Airport
7800 Airport Boulevard
Houston, Texas 77017

HOUSTON (Continued)

Houston Intercontinental Airport (IAH)

James C. DeLong, Assistant Manager - Operations (713) 443-4944

Houston Intercontinental Airport
P. O. Box 60106
Houston, Texas 77205

KANSAS CITY (Central Region)

Fairfax Municipal (KCK)

William P. Service, Airport Manager (913) 321-5050

Fairfax Municipal Airport
Kansas City, Kansas 66115

Kansas City International (MCI)

Brenton D. Myers, Assistant Director, Planning Department (816) 243-5200
Frederick Berge, Airport Planning Department (816) 243-5200
James Mallon, Economic Analysis Department (816) 243-5200

Aviation Department
Kansas City International Airport
1 International Square
Box 20047
Kansas City, Missouri 64195

Kansas City Municipal (MKC)

Harold Treffry, Airport Manager (816) 471-4946

Kansas City Municipal Airport
400 Richards Road
Kansas City, Missouri 64116

LAS VEGAS (Western Region)

McCarran International (LAS)

Dan F. Evans, Airport Manager (702) 739-5211

Postal Box 11005
Airport Station
Las Vegas, Nevada 89111

North Las Vegas Air Terminal (VGT)

James Silcott, Airport Manager (702) 648-3064

North Las Vegas Air Terminal
6005 Las Vegas Blvd., South
Las Vegas, Nevada 89109

LOS ANGELES (Western Region)

Los Angeles International (LAX)
Ontario International (ONT)
Palmdale Air Force Plant 42 (PMD)
Van Nuys (VNY)

Clifton A. Moore, General Manager (213) 646-5252
W. H. VanLeuven, Airport Planning (213) 646-5252
Donald Trestick, Airport Planning (213) 646-3987
Kenneth T. Giles, Airport Planning (213) 646-4718

City of Los Angeles
Department of Airports
1 World Way
Los Angeles, California 90009

Long Beach Daugherty Field (LGB)

Doyle Bowers (213) 436-9041 Ext. 335

502 City Hall
Long Beach, California 90802

MIAMI/FORT LAUDERDALE (Southern Region)

Fort Lauderdale-Hollywood International (FLL)
North Perry (HWO)

Lee Wagener, Director of Airports (305) 765-5910
Fred C. Hoffman, Administrative Aide (305) 765-5910

Division of Airports
290 S.W. 41st Court
Fort Lauderdale, Florida 33315

Miami International (MIA)
Opa Locka (OPF)
New Tamiami (TMB)

I. H. Carr, Director of Planning (305) 526-2380

Dade County Aviation Department
Miami International Airport
P. O. Box 2075, AMF
Miami, Florida 33159

Palm Beach International (PBI)

Jann Strouse, Department of Airports (305) 683-5722

Palm Beach International Airport
Building S-120
West Palm Beach, Florida 33406

NEW ORLEANS (Southwest Region)

Moisant Field (MSY)

Paul T. Stoulig, Director of Aviation (504) 729-2591

Box 20007
New Orleans International Airport
New Orleans, Louisiana 70141

New Orleans Lakefront (NEW)

O. Kelly Weld, Airport Manager (504) 241-2337

Suite 129, Administration Building
New Orleans Lakefront Airport
New Orleans, Louisiana 70126

MINNEAPOLIS/ST. PAUL (Great Lakes Region)

Anoka County Janes Field (ANE)
Crystal (MIC)
Flying Cloud (FCM)
Lake Elmo (21D)
St. Paul Downtown Holman Field (STP)
Wold-Chamberlain Field (MSP)

William B. Olson, Director of Planning and Engineering (612) 726-5770

Metropolitan Airports Commission
6040 28th Avenue, South
Minneapolis, Minnesota 55450

NEW YORK (Eastern Region)

Republic (FRG)

William B. Diggle, Airport Manager (516) 293-9850

Republic Airport
East Farmingdale, New York 11735

Westchester County (HPN)

Andrew Faraone, Aviation Department (914) 946-9000

Westchester County Department of Public Works
White Plains, New York 10601

Islip MacArthur (ISP)

Alfred Werner, Airport Manager (516) 588-8062

Islip-MacArthur Airport
Islip, New York 11751

NEW YORK (Continued)

Morristown Municipal (MMU)

Robert P. McGovern, Airport Manager (201) 538-6400

Morristown Municipal Airport
Morristown, New Jersey 07960

PHILADELPHIA (Eastern Region)

Greater Wilmington (ILG)

William H. Comer, Sr., Airport Manager (302) 328-5656

Greater Wilmington Airport
151 N. DuPont Parkway
New Castle, Delaware 19720

Philadelphia International (PHL)
North Philadelphia (PNE)

William T. Burns, Director of Aviation (215) 492-3000
Gordon Jacobson, Planning and Development Coordinator (215) 492-3000
Malcolm C. Mattice, Planning and Development (215) 492-3172

Division of Aviation
International Airport
Philadelphia, Pennsylvania 19153

Mercer County (TTN)

John T. Stephan, Airport Manager (609) 882-1600
Samuel Weinroth, Airport Administrator (609) 882-1600

Mercer County Airport
P. O. Box 64
West Trenton, New Jersey 08628

PHOENIX (Western Region)

Deer Valley Municipal (DVT)
Litchfield Municipal (GYR)
Phoenix Sky Harbor International (PHX)

Pat Murphy, Assistant Aviation Director (602) 262-6291
James Barnett, Aviation Planning (602) 262-6291

Phoenix Sky Harbor International Airport
3200 Sky Harbor Blvd.
Phoenix, Arizona 85034

PITTSBURGH (Eastern Region)

Allegheny County (AGC)
Greater Pittsburgh International (PIT)

Martin J. Griffin, Director (412) 771-2500
Bruce N. Ambrose, Chief, Planning Division (412) 771-2500

Room M 134, Terminal Building
Greater Pittsburgh International Airport
Pittsburgh, Pennsylvania 15213

Latrobe (LBE)

James Cavalier, Airport Director (412) 539-8100

Westmoreland County Airport Authority
Box 396, R. D. No. 1
Latrobe, Pennsylvania 15650

ST. LOUIS (Central Region)

Civil Memorial (ALN)

James E. Johnson, Airport Manager (618) 259-2531

Civil Memorial Airport Authority
Drawer A
East Alton, Illinois 62024

St. Louis International (STL)

Ronald Moore, Assistant Director, Engineering/Planning (314) 426-4430

St. Louis Airport Authority
St. Louis International Airport
Box 10212
St. Louis, Missouri 63145

Spirit of St. Louis (SUS)

Richard E. Hrabko, Airport Manager (314) 532-3462

Spirit of St. Louis Airport
Box 250
Chesterfield, Missouri 63017

SAN FRANCISCO (Western Region)

Buchanan Field (CCR)

M. E. Scott, Airport Manager (415) 685-0722

Concord Airport
171 John Glenn Drive
Concord, California 94520

SAN FRANCISCO (Continued)

Hayward Air Terminal (HWD)

James Mummert, Airport Manager (415) 783-4411

Hayward Airport
20301 Skywest Drive
Hayward, California 94541

Metropolitan Oakland International (OAK)

Mr. Glower, Planning Department (415) 444-3188

Port of Oakland Authority
Metropolitan Oakland International Airport
66 Jack London Square
P. O. Box 2064
Oakland, California 94607

San Francisco International (SFO)

Dale Fearn, Assistant Director of Planning (415) 761-0800

Airports Commission
City and County of San Francisco
San Francisco International Airport
San Francisco, California 94128

San Jose Municipal (SJC)

Verne B. Troup, Deputy Assistant, Airport Planning and Development
(408) 277-4000

Airport Department
San Jose Airport
1661 Airport Blvd.
San Jose, California 95110

San Carlos (SQL)

H. Thayer, Airport Manager (415) 364-5600

San Carlos Airport
620 Airport Drive
San Carlos, California 94070

SAN JUAN (Southern Region)

San Juan International (SJU)
Isla Grande (SIG)
Mercedita (PSE)

Federico Bauzo, Director of Aviation (809) 791-3368
Jose A. Fernandez, Superintendent, Regional Airports (809) 791-3368

Puerto Rico Ports Authority, Aviation Department
Suite 203, Passenger Terminal Building
San Juan, Puerto Rico 00913

SEATTLE (Northwest Region)

Boeing Field/King County International (BFI)

Donald W. Smith, Airport Manager (206) 344-7380

King County International Airport
P. O. Box 80245
Seattle, Washington 98108

Snohomish County (PAE)

George C. Petrie, Airport Manager (206) 353-2110
Donald Bakken, Superintendent of Operations (206) 353-2110

Paine Field
Everett, Washington 98204

Renton Municipal (RNT)

Dale Bennett, Airport Manager (206) 235-2591

Renton City Hall
Renton, Washington 98055

Seattle-Tacoma International (SEA)

Donald G. Shay, Director of Aviation (206) 587-4630
Lawrence (Ed) Parks, Jr., Department of Planning and Research
(206) 587-4630

Port of Seattle
P. O. Box 1209
Seattle, Washington 98111

TAMPA/ST. PETERSBURG (Southern Region)

Lakeland Municipal (LAL)

W. E. Martin, Airport Manager (813) 682-1141

Route 4, Box 1168
Lakeland Municipal Airport
Lakeland, Florida 33803

St. Petersburg-Clearwater International (PIE)

William Lax, Airport Manager (813) 531-1451

St. Petersburg Clearwater International
St. Petersburg, Florida 33732

Albert Whitted (SPG)

Thomas A. Scott, Airport Manager (813) 893-7654

Albert Whitted Airport
St. Petersburg, Florida 33701

TAMPA/ST. PETERSBURG *(Continued)*

Tampa International (TPA)

Robert McGuire, Director of Planning (813) 871-2330

Tampa International Airport
Tampa, Florida 33614

WASHINGTON (Eastern Region)

Baltimore-Washington International (BAL)

Maury Paslick, Office of Engineering (301) 761-7100 Ext. 214

State Aviation Administration
Air Cargo Complex
P. O. Box 8761
Baltimore-Washington International Airport
Maryland 21240

Washington National (DCA)
Dulles International (IAD)

Frank Conlon, Chief Engineer (703) 557-1136
Henry Mahns, Engineering Department (703) 557-1155
Charles Chewning, Planning Department (703) 557-1155

Federal Aviation Administration
Hangar 9, Washington National Airport
Washington, D.C. 20001

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Federal Aviation Administration
800 Independence Avenue
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Glenn L. Martin State (MTN)

Al Selby, Airport Manager (301) 391-9500
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State Aviation Administration
P. O. Box 5036
Glenn L. Martin State Airport
Middle River, Maryland 21220

Harry P. Davis Field (W10)

Ralph Moore, Airport Manager (703) 361-4104

Manassas City Hall
Manassas, Virginia 22110

C.2 AIRPORT DOCUMENTS

In this section the master plans, environmental impact statements, airport layout plan reports, and other airport studies which were used in this study are listed. Also included are the state or regional airport system plans for airports in the large hubs. Copies of most of the documents listed here are available at ASI, but several of the plans were reviewed while at the airport and are available only at the airport. Many data items were obtained directly from the airport through airport and terminal layout plans, activity summaries, and similar sources which are not included here. The documents are listed alphabetically by hub. Also used as data sources were the Jeppensen, Sanderson and Co. approach charts, FAA 5010 Forms, and other readily available public documents.

ATLANTA

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BOSTON

"Boston-Logan International Airport Environmental Impact Study," Vols. I and II, Submitted to Massachusetts Port Authority by Landrum and Brown, Inc., May 1971.

"Boston-Logan International Airport Preliminary Environmental Impact Report, Extension of Runways 4L and 9, and Construction of STOL/GA Runway 15-33," prepared by Landrum and Brown, Inc., December 1972.

"Draft Master Plan Study Boston-Logan International Airport," Massachusetts Port Authority, Aviation Department, June 1973.

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CHICAGO

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CLEVELAND

"Airport Feasibility Study for the Lake Erie Regional Transportation Authority," No. 2-4, prepared by Howard Needles Tammen and Bergendoff in association with Landrum and Brown, May 1974.

"Environmental Impact Assessment Report for Proposed Landing Area Development - Cleveland Hopkins International Airport," prepared by James C. Buckley, Inc., Washington, D. C., July 1974.

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DALLAS

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"Draft Environmental Impact Statement," prepared by Tippetts-Abbett-McCarthy-Stratton, New York, November 1971.

"Site Selection Study," prepared by Tippetts-Abbett-McCarthy-Stratton, New York, December 1965.

"Airport Layout Plan," prepared by Tippetts-Abbett-McCarthy-Stratton, July 1966.

"Airport Master Plan," prepared by Tippetts-Abbett-McCarthy-Stratton, December 1967.

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DENVER

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DETROIT

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HONOLULU

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HOUSTON

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KANSAS CITY

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LAS VEGAS

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LOS ANGELES

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"Los Angeles International Airport, Airport Layout Plan Report," Engineering Bureau, Department of Airports, Los Angeles, March 1974.

"Final Environmental Impact Statement - Ontario International Airport," Olson Laboratories, August 1975.

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MIAMI-FORT LAUDERDALE

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GLOSSARY

Air Carrier. The term "air carrier," as used in this report, refers to aircraft operators certificated by the Federal Aviation Administration to transport by air, persons, property, and mail.

Air Carrier Operations. Revenue activities of the certificated route air carriers and the supplemental air carriers on scheduled and nonscheduled flights.

Aircraft Operation. An aircraft arrival at or departure from an airport with FAA airport traffic control service. There are two types of operations - local and itinerant.

1. Local operations are performed by aircraft which:
   (a) Operate in the local traffic pattern or within sight of the tower.
   (b) Are known to be departing for, or arriving from, flight in local practice areas located within a 20-mile radius of the control tower.
   (c) Executive simulated instrument approaches or low passes at the airport.
2. Itinerant operations:
   All aircraft arrivals and departures other than local operations.

Aircraft Type. A distinctive model of an aircraft as designated by the manufacturer.

Airfield. The runway and taxiway system used for aircraft operations.

Air Taxi. Any use of an aircraft by the holder of an Air Taxi Operating Certificate which is authorized by that certificate. This usually involves unscheduled commercial operations.

Air Traffic Hub. Air traffic hubs are not airports; they are the cities and Standard Metropolitan Statistical Areas requiring aviation services. Communities fall into four classes as determined by each community's percentage of the total enplaned passengers in scheduled and nonscheduled service of the domestic certificated route air carriers in the 50 states, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration.

All-Cargo Carrier. One of a class of air carriers holding Certificates of Public Convenience and Necessity, issued the CAB, authorizing the performance of scheduled air freight, express, and mail transportation over specified routes, as well as the conduct of nonscheduled operations, which may include passengers.

All Services. The total of scheduled and nonscheduled transport services.

Arriving Passengers (Inbound, Deplaning). Passengers arriving to the airport by aircraft.

ASR - Airport Surveillance Radar. Short range radar (30 miles) used by tower personnel for arrival and departure control.

Average Day (Peak Month) (Design Day). A typical day in the peak month of the year, which reflects average traffic figures obtained by dividing the total traffic by the number of days of that month.

Automatic Terminal Information Service (ATIS). A continuous broadcast of recorded noncontrol information in selected areas of high terminal activity. Information such as: ceiling, visibility, wind, altimeter, instrument approach and runways in use. This data is broadcast over the voice feature of VOR, VOT, or ILS located at or near the airport, or by a discrete VHF tower frequency. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential, but routine information.

Baggage. Articles, effects, and other personal property of the passenger for transport in connection with his journey: unless otherwise specified, it includes both checked and unchecked baggage.

Baggage, Carry-On. Baggage other than checked baggage, such as hand baggage or cabin baggage.

Baggage Claim Area. The public allotted in the airport terminal for the claiming of baggage from the airlines by passengers on arrival.

Baggage Claim Device. The fixed or mechanical units from which baggage is claimed by passengers.

Cargo. The total of freight, express, and air mail carried by aircraft both in passenger and all-cargo flights.

Carrier Group. A grouping of carriers certificated for essentially the same type of operation and having basically similar operating characteristics.

Ceiling. The height above the earth's surface of the lowest layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration" and not classified as "thin" or "partial."

Certificated. Holding a currently valid Certificate of Public Convenience and Necessity.

Certificated Point. A city, place, or population center authorized to receive scheduled air service under a Certificate of Public Convenience and Necessity or under an exemption issued to an air carrier. (More than one community may be included in a certificated point, and a point may be served through more than one airport).

Certificated Route Air Carrier. An air carrier holding a Certificate of Public Convenience and Necessity issued by the Civil Aeronautics Board to conduct scheduled services over specified routes. Certain nonscheduled or charter operations may also be conducted by these carriers.

Certificate of Public Convenience and Necessity. A certificate issued to an air carrier under Section 401 of the Federal Aviation Act by the Civil Aeronautics Board authorizing the carrier to engage in air transportation.

Community. A city, group of cities, or a Standard Metropolitan Statistical Area receiving scheduled air service by a certificated route air carrier.

Commuter Airline. See Third-level carrier.

Concessionaire. An individual, firm, company, or organization permitted by the airport authority to locate or carry on business at the airport for the convenience of the passengers.

Concourse. A walkway or area for circulation to and between departure lounges.

Configuration. An external form; the particular arrangement of elements that distinguishes one thing from another.

Connecting Passenger (Transfer Passenger). Passengers connecting from one flight to another at the same airport; see Interline and Intraline.

Connector. The element that joins the terminal to the parked aircraft.

Containers. Enclosed storage units for baggage or cargo that are carried aboard the aircraft.

Control Tower. Towers have been established to provide for a safe, orderly, and expeditious flow of traffic in the vicinity of an airport. When the responsibility has been so delegated, towers also provide for the separation of IFR aircraft in the terminal areas (Approach Control).

Conveyor Systems (Baggage or Cargo). A moving belt or other mechanical system used for the conveyance of baggage, cargo, mail, stores, etc.

Course. The intended direction of flight in the horizontal plane.

Curb. The sidewalk area for entering and exiting the terminal for arriving and departing passengers, visitors, and baggage.

Decision Height (DH). The height, specified in MSL, above the highest runway elevation in the touchdown zone at which a missed approach shall be initiated if the required visual reference has not been established. This term is used only in procedures where an electronic glide slope provides the reference for descent, as in an ILS.

Demand Forecast. See Forecast.

Departing Passengers (Outbound, Enplaning). Passengers departing from the airport by aircraft.

Departure (Aircraft). An aircraft takeoff made at an airport.

Departure Lounge. The area used for assembling passengers for a flight departure.

Deplaning Passenger. See Arriving Passenger.

Distance Measuring Equipment (DME). Distance measuring equipment provides a pilot with accurate knowledge of his distance from the ground navigation aid to which his equipment is tuned. This equipment operates on an interrogation-response principle in the UHF band. Distance information may be displayed in the cockpit by means of a dial or a digital indicator in terms of nautical miles.

Domestic (Flight, Passengers). Flight or passenger's journey that does not involve Federal Inspection Services.

Domestic Operations. In general, operations within and between the 50 states of the United States and the District of Columbia. Includes domestic operations of the certificated trunk carriers, and the local service, helicopter, intra-Alaska, intra-Hawaii, domestic all-cargo, and other route carriers. In addition, any Canadian operations conducted on the domestic route segments of U.S. air carriers are shown as domestic operations. Local service carriers' operations into Mexico, at this time, are shown as domestic operations.

Domestic Trunks (Domestic Trunk Operations). Domestic operations of the domestic trunk carriers. This group of carriers operates primarily within the geographic limits of the 48 conterminious states of the United States (and the District of Columbia) over routes serving primarily the larger communities. International and territorial operations of these carriers are shown under "international and territorial operations," and not under "domestic trunk operations".

Enplaned Passengers. The number of revenue passengers boarding aircraft, including originating, stopover, and transfer passengers.

Enplaned Revenue Tons of Freight, Express, U.S. Mail, and Foreign Mail. The number of revenue tons of freight, express, U.S. and foreign mail loaded on an aircraft including originating and transfer tons. The tons of cargo and mail on aircraft entering a carrier's system on interchange flights are considered as enplanements at the interchange point and cargo and mail tons moving from one operation to another operation of the same carrier for which separate reports are required (reporting entity) by the CAB are considered as enplaning at the junction point.

Express. Property transported by air under published air express tariffs filed with the Civil Aeronautics Board.

Final Approach Course. A straight line extension of a localizer, a final approach radial/bearing, or a runway centerline.

Final Approach Fix. The fix from or over which final approach (IFR) to an airport is executed.

Final Approach - IFR. The flight path of an aircraft which is inbound to the airport on an approved final instrument approach course, beginning at the final approach fix and extending to the airport or the point where circling for landing or missed approach is executed.

Final Approach - VFR. A flight path of a landing aircraft in the direction of landing along the extended runway centerline from the base leg to the runway.

Fleet Mix. The percentage of aircraft by type according to their relative usage of the airport.

Flight, Extra Section. A flight, conducted as an integral part of scheduled service, that has not been provided for in published schedules and is required for transportation of traffic that can not be accommodated on a regularly scheduled flight.

Flight Service Stations. Flight Service Stations are the Air Traffic Service facilities within the National Airspace System which have the prime responsibility for preflight pilot briefing, en route communications with VFR flights, assisting lost VFR aircraft, originating NOTAMS, broadcasting aviation weather information, accepting and closing flight plans, monitoring radio NAVAIDS, participating with search and rescue units in locating missing VFR aircraft, and operating the national weather teletypewriter systems. In addition, at selected locations, FSSs take weather observations, issue airport advisories, administer airman written examinations, and advise Customs and Immigration of transborder flight.

Flight Visibility. The average forward horizontal distance from the cockpit of an aircraft in flight at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.

Forecast. Forecasts that determine, for certain future years, the total traffic in passengers and aircraft movements.

Foreign Mail. Mail transported from a point outside of the United States by U.S.-flag carriers for a foreign government.

Freight. Property transported by air under published air freight tariffs files with the Civil Aeronautics Board. (Excludes mail, express, and passenger baggage).

Gate Occupancy Time. Total elapsed time between the arrival of an aircraft at the aircraft gate position and its departure from that position.

Gate Position (Aircraft). The area for the aircraft, ground-service equipment, and passenger boarding device.

General Aviation Aircraft. All civil aircraft except those classified as air carriers.

General Aviation Operations. All civil aircraft operations except those classified as air carriers (see also Aircraft Operation).

Heavy Jet Aircraft. Aircraft capable of takeoff weights of 300,000 pounds or more whether or not they are operating at this weight during a particular phase of flight. Aircraft currently included in this "heavy" category are as follows: Boeing 707, 300 and 400 series; Boeing 747; Boeing B-52, Boeing C-135 Electronic, Boeing C-137 VIP; Douglas DC-8, 30 through 63 series; Douglas DC-10; Lockheed C-141; Lockheed 1011; BAC VC-10; Russian IL-62.

Hub Type. See Air Traffic Hub.

Hyphenated Point. Basically two or more neighboring communities which, in terms of authorization shown in a carrier's Certificate of Public Convenience and Necessity, are treated as a single community.

ILS Categories.

1. ILS Category I - An ILS approach procedure which provides for approach to a height above touchdown of not less than 200 feet and with runway visual range of not less than 1800 feet.
2. ILS Category II - An ILS approach procedure which provides for approach to a height above touchdown of not less than 100 feet and with runway visual range of not less than 1200 feet.
3. ILS Category III -
   (a) IIIA - An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 700 feet.
   (b) IIIB - An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 150 feet.
   (c) IIIC - An ILS approach procedure which provides for approach without a decision height minimum and without runway visual range minimum.

Inbound Passenger. See Arriving Passenger.

Instrument Flight Rules (IFR). When weather conditions are below the minimums prescribed for visual meteorological conditions, pilots must fly in accordance with IFR. Pilots may elect to fly an IFR flight plan during VMC.

Instrument Flight Rules Conditions (IFR). Weather conditions below the minimum prescribed for flight under VFR.

Instrument Landing System (ILS). The instrument landing system is designed to provide an approach path for exact alignment and descent of an aircraft on final approach to a runway. The ground equipment consists of two highly directional transmitting systems and along the approach, three (or fewer) marker beacons. The directional transmitters are known as the localizer and glide slope transmitters. The system may be divided functionally into three parts: (1) Guidance information - localizer, glide slope; (2) Range information - marker beacons; (3) Visual information - approach lights, touchdown and centerline lights, runway lights.

Interline (Off-Line). The transfer of passengers, baggage, or cargo between two different airlines.

International (Flight, Passengers). Flight or passenger's journey that involves Federal Inspection Services.

International Operations. In general, operations outside territory of the United States, including operations between the United States and foreign countries and the United States and its territories or possessions. Includes both the combination passenger/cargo carriers and the all-cargo carriers engaged in international and territorial operations.

Intraline (On-Line). The transfer of passengers, baggage, or cargo on the same airline.

Itinerant Operation. See Aircraft Operation.

Large Aircraft. Aircraft of more than 12,500 pounds, maximum certificated takeoff weight, up to 300,000 pounds.

Large Air Traffic Hub. A community enplaning 1.00 percent or more of the total enplaned passengers in all services and all operations for all communities within the 50 states, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. Also see "air traffic hub."

Linear. An arrangement of aircraft parked in a line adjacent to the terminal and directly opposite the primary passenger entrances.

Load Factor. The ratio of passenger seats occupied to the total seat capacity of the aircraft.

Lobby. The portion of the terminal for waiting and circulation.

Localizer. The localizer transmitter emits signals which provide the pilot with course guidance to the runway centerline.

Local Operation. See Aircraft Operation.

Local Service Carriers. Certificated domestic route air carriers operating routes of lesser density between the smaller traffic centers and between those centers and principal centers.

Mail. All types of mail carried aboard an aircraft; i.e., U.S. Postal Service mail, diplomatic mail, military mail, and company (airline) mail.

Medium Air Traffic Hub. A community enplaning from 0.25 to 0.99 percent of the total enplaned passengers in all services and all operations for all communities within the 50 states, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. Also see "Air Traffic Hub."

Movement (Aircraft). An aircraft arrival or departure.

Movement Area. The runways, taxiways, and other areas of an airport which are used for taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas.

Non-Directional Radio Beacon (NDB). The term "radio beacon" is a general designation for LF/MF radio navigational aids primarily intended for use with a mobile direction finder to provide bearing information. They generally operate within the 200-415 kilohertz frequency band, radiating a non-directional signal, which may be used for navigational guidance either while enroute or as an approach aid to an airport.

Nonhub. A community enplaning less than 0.05 percent of the total enplaned passengers in all services and all operations for all communities within the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. Also see "Air Traffic Hub."

Non-Precision Approach Procedure. Means a standard instrument approach procedure in which no electronic glide slope is provided.

Nonscheduled Service. Revenue flights that are not operated in regularly scheduled service such as charter flights.

Offline Airport. Installations maintained, or facilities used, by a certificated route air carrier for other than scheduled certificated air services.

Online Airport. Installations maintained, or facilities used, by a certificated route air carrier in conducting scheduled service.

Operation. See Aircraft Operation.

Other Carriers. Carrier group comprised of Aspen Airways and Wright Air Lines.

Other U.S. Areas. Areas under U.S. jurisdiction, other than the 50 States and the District of Columbia, that are designated by the Federal Aviation Administration to be included in the base for air traffic hub classification computations.

Originating Flight. An aircraft that begins its flight segment.

Originating/Terminating (O/D) Passengers. Passengers who begin or end their trip at the airport.

Outbound Passenger. See Departing Passenger.

Passenger/Cargo Air Carrier. One of a class of air carriers holding certificates of public convenience and necessity issued by the Civil Aeronautics Board, authorizing the performance of scheduled air transportation of passengers and property over specified routes, as distinguished from the certificated all-cargo carriers, which are limited to the carriage of property only.

Passenger Originizations in Scheduled Service. The number of revenue passengers boarding aircraft in scheduled service at the points of initial enplanement on the reporting carrier's operation, which the return portion of a round trip counted separately as an initial origination. Passengers traveling on an interline ticket are counted as an initial origination on each of the carriers in the journey. In addition, a passenger traveling on a carrier that has two or more reporting entities, for which separate reports are filed with the CAB, is counted as an initial origination on each reporting entity.

Passenger Loading Bridge. An enclosed bridge from the connector to an aircraft through which passengers enplane or deplane.

Peak. A defined period when the highest numbers or volumes are experienced.

Peak Hour. A 60-minute period of a design day during which more traffic activity occurs then at any other hour of the day.

Peak Month. The month of the year during which the greatest amount of traffic occurs.

Pier. A projection from the terminal at which aircraft are parked on either side.

Piston Aircraft. An aircraft fitted with engines in which pistons, moving back and forth, work upon a crankshaft or other device to create rotational movement.

Ramp. See Apron.

Reporting Entity. A certificated route air carrier, or an operating division or segment of the air carrier, for which separate traffic reports are required to be filed with the Civil Aeronautics Board.

Roadway Capacity. The maximum number of vehicles which as a reasonable expectation of passing over a given section of a lane or a roadway in one direction (or in both directions for a two-lane or a three-lane highway) during a given time period under prevailing roadway and traffic conditions.

Satellite. A building, separate from the terminal, about which a cluster of aircraft is parked.

Scheduled Service. Transport service operated over an air carrier's certificated routes, based on published flight schedules, including extra sections.

Service Roads. Raods designated for service vehicles only.

Simplified Directional Facility (SDF). A facility that provides a final approach course similar to that of an ILS localizer, but with a course that may be wider than a localizer, resulting in less precision. An SDF is seldom aligned with a runway.

Small Air Traffic Hub. A community enplaning from 0.05 to 0.24 percent of the total enplaned passengers in all services and all operations for all communities within the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. Also see "air traffic hubs".

Small Aircraft. Aircraft of 12,500 pounds or less, maximum certificated takeoff weight.

Standard Instrument Departure (SID). A preplanned coded air traffic control IFR departure routing, preprinted for pilot use in graphic and textual or textual form only.

Standard Metropolitan Statistical Area. A county that contains at least one city of 50,000 population, or twin cities with a combined population of at least 50,000, plus any contiguous counties that are metropolitan in character and have similar economic and social relationships.

Standard Terminal Arrival Route (STAR). A preplanned coded air traffic control IFR arrival routing, preprinted for pilot use in graphic and textual or textual form only.

Straight-In Approach - IFR. An instrument approach wherein final approach is begun without first having executed procedure turn.

Straight-In Approach - VFR. Entry of the traffic pattern by interception of the extended runway centerline without executing any other portion of the traffic pattern.

Supplemental Air Carrier. One of a class of air carriers now holding temporary certificates of public convenience and necessity issued by the Civil Aeronautics Board, authorizing them to perform passenger and cargo charter services supplementing the scheduled service of the certificated route air carriers. In addition, they can perform on a limited or temporary basis, as authorized by the Civil Aeronautics Board, scheduled operations including the transportation of individually ticketed passengers and individually waybilled cargo.

Tactical Air Navigation (TACAN). TACAN ground equipment consists of either a fixed or mobile transmitting unit. The airborne unit in conjunction with the ground unit reduces the transmitted signal to a visual presentation of both azimuth and distance information. TACAN is a pulse system and operates in the UHF band of frequencies. Its use requires TACAN airborne equipment and does not operate through conventional VOR equipment.

Taxilane. A defined path on the apron used by aircraft for access to aircraft gate positions.

Taxiway. Airfield: A defined path over which aircraft can taxi from one airfield area to another.

Apron Edge: A taxiway at the outer edge of the apron.

Terminal. The building or facility, located between apron and curb, for the processing of passengers and baggage.

Domestic Terminal: The facility used for the transfer and processing of passengers and baggage traveling within one country.

International Terminal: The facility used for the transfer and processing of passengers passing between two countries.

Terminal Road. Deplaning: The road that provides vehicular access to and from deplaning functions of the terminal.

Enplaning: The road that provides vehicular access to and from enplaning functions of the terminal.

Terminating Flight. An aircraft that arrives at the end of its flight segment.

Ticket Counter. The counter in the lobby at which tickets are sold, baggage is checked and boarding authorization is sometimes given.

Third-Level Carrier. A scheduled air carrier, generally using small aircraft, providing feeder service.

Through Flight. An aircraft that arrives at an airport and later departs for another flight segment.

Through Passenger. A passenger that arrives at an airport and later departs for another flight segment on the same aircraft flight.

Total Cargo and Mail. The total number of enplaned revenue tons of freight, express, U.S. mail, and foreign mail.

Total Operations. The total of all operations (domestic and international) performed by an air carrier.

Traffic Forecast. Forecasts that determine for certain future years, the total traffic in passengers and aircraft movements.

Transfer Passenger. See Connecting Passenger.

Transporter. The vehicle used to transport passengers to and from aircraft.

Trunk Carriers (Domestic Trunk Carriers). This group of carriers operates primarily within the geographic limits of the 48 coterminous states of the United States and the Distrcit of Columbia over routes serving primarily the larger communities. Most of the domestic trunks also have international and terriotorial operations, which are shown separately.

Turbofan Aircraft. Aircraft propelled by a turbojet engine whose thrust has been increased by the addition of a low-pressure compressor (fan). The turbofan engine can have an oversized low-pressure compressor at the front with part of the flow by-passing the rest of the engine (front-fan or forward-fan) or it can have a separate fan driven by a turbine stage (aft-fan).

Turbojet Aircraft. Aircraft propelled by jet engines incorporating a turbine-driven air compressor to take in and compress the air for the combustion of fuel, the gases of combustion (or the heated air) being used both to rotate the turbine and to create a thrust-producing jet.

Turboprop Aircraft. Aircraft in which the main propulsive force is supplied by a conventional propeller driven by a gas turbine. Additional propulsive force may be supplied from the discharged turbine exhaust gas.

Type of Operation. Airport activity in domestic, international, or total (system) operations.

Type of Service. Airport activity in scheduled, nonscheduled, or all services.

Unicom. A non-government air/ground radio communication facility which may provide airport advisory service at certain airports. Locations and frequencies of Unicom's are shown on aeronautical charts and publications.

VFR Conditions. Basic weather conditions prescribed for flight under Visual Flight Rules.

Visual Flight Rules (VFR). Rules governing visual flights, in general: navigation by visual sighting of landmarks and collision avoidance on a see-and-be-seen basis. Unsed only when weather is better than well-defined minimums (FAR 91.105).

VHF Omni Range (VOR). The very high frequency (VHF) omnirange operates within the 108-118 MHz band and provides definite guidance, to or from the station, on any course the pilot may select. The various class VORs provide usable service, on a line-of-sight basis within each facility's service volume of airspace.

Visibility, Runway Visual Range (RVR). An instrumentally derived value, based on standard calibrations, that represents the horizontal distance a pilot will see down the runway from the approach end: it is based on the sighting of either high intensity runway lights or on the visual contrast of other targets - whichever yields the greater visual range. RVR, in contrast to prevailing or runway visibility, is based on what a pilot in a moving aircraft should see looking down the runway. RVR is horizontal, and not slant, visual range. It is based on the measurement of a transmissometer made near the touchdown point of the instrument runway and is reported in hundreds of feet. RVR provides an additional operating minimum at fields equipped with specified navigational aids. For example, at the present time the RVR minimum at Newark is 2400 ft. (in combination with a decision height (DH) of 211' MSL) for both takeoffs and landings regardless of the reported ceiling and visibility.

Visitor. A nonpassenger, nonemployee using the terminal.

Visual Approach. An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of a radar facility and having an air traffic control authorization, may deviate from the prescribed instrument approach procedure and proceed to the airport of destination by visual reference to the surface.

VORTAC. VORTAC is a facility consisting of two components, VOR and TACAN, which provides three individual services: VOR azimuth, TACAN azimuth and TACAN distance (DME) at one site. Although consisting of more than one component, incorporating more than one operating frequency, and using more than one antenna system, a VORTAC is considered to be a unified navigational aid. Both components of a VORTAC are envisioned as operating simultaneously and providing the three services at all times.

Wake Turbulence. The disturbance to the surrounding atmosphere created by an operating aircraft (airplane, rotorcraft, etc.) and may be used to refer to any or all of the following: Jet engine blast (thrust stream turbulence), prop wash, wing tip vortices, or rotor vortices.

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